

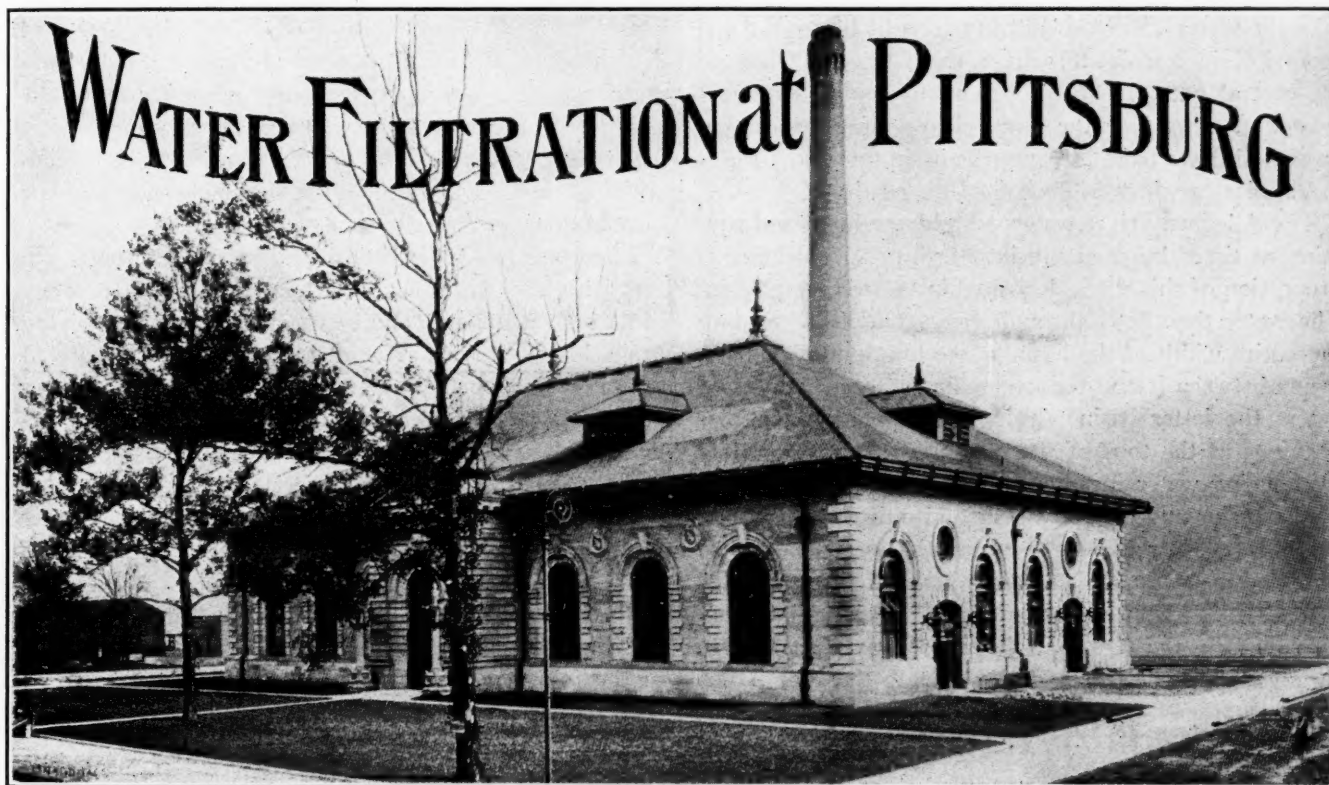
# Municipal Journal

## And Engineer

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ROSS PUMPING STATION

THE filters for the water works of Pittsburgh, Pa., are now about completed, although delivery of filtered water to consumers throughout the entire city is delayed by the fact that provisions for so distributing the water have not been completed. The water supply of the city is taken from the Allegheny river, about 6 miles above the city, just above the borough of Aspinwall on the north bank of the Allegheny. The pumping station at this point, known as the Ross pumping station, is 128 feet by 200 feet, a longitudinal brick wall dividing it into boiler and engine room. The superstructure is of Pompeian brick with sandstone trimmings. The chimney, 200 feet high and  $8\frac{1}{2}$  feet inside diameter, was built by the Alphons-Custodis Chimney Construction Company. Its foundation is entirely independent and outside of the foundation of the building.

The boiler room is designed for ten 350-horsepower boilers, eight of which have been installed, being furnished by the Sterling Boiler Company. These are arranged in batteries of two each, and are designed for 150 pounds steam pressure. They are equipped with

chain grate stokers. Near one corner of the boiler room is a coal hopper into which coal is dumped from cars, and from which it is elevated by Telpher buckets (furnished by the Link Belt Engineering Company and the Sprague Electric Company) and deposited into elevated coal bunkers which have a total capacity of 800 tons. Two Green economizers are located above the boilers in the main flue.

The engine room is designed for five centrifugal pumps, four D'Auria pumps and five generators. At present it contains four horizontal, single stage, low lift centrifugal pumps, direct connected to cross-compound Corliss engines, furnished by the Allis-Chalmers Company. Each pump has a capacity in 24 hours of from 35 million gallons against a 60-foot head to 55 million gallons against a 40-foot head, the head varying within this range according to the height of the river. The center line of their shaft is 7 feet above average river level. These pumps raise the water from the river to the receiving basin.

Two 5-million and one 3-million gallon D'Auria

pumps, furnished by the Builders Iron Foundry, supply water under 125 pounds pressure for transporting and cleaning the filter sand and for fire protection at the works. Electric current for lighting and power throughout the works is furnished by three 175-kw. Westinghouse generators, direct connected to 250-horsepower cross-compound Shepherd engines, and by one motor-driven arc light generator.

The river water, in reaching the centrifugal pumps, passes through a concrete intake on the river bank and a concrete suction conduit 10 feet 4 inches in diameter which extends the entire length of the pump room beneath the floor of the pump pit. The centrifugal pumps take the water from this pit and force it through 2,000 feet of 96-inch main, through a mean lift of 47 feet, to the central gate chamber. From this the water enters a conduit extending the entire width of the receiving basin and flows from this into the basin through a series of circular openings in the top of the conduit.

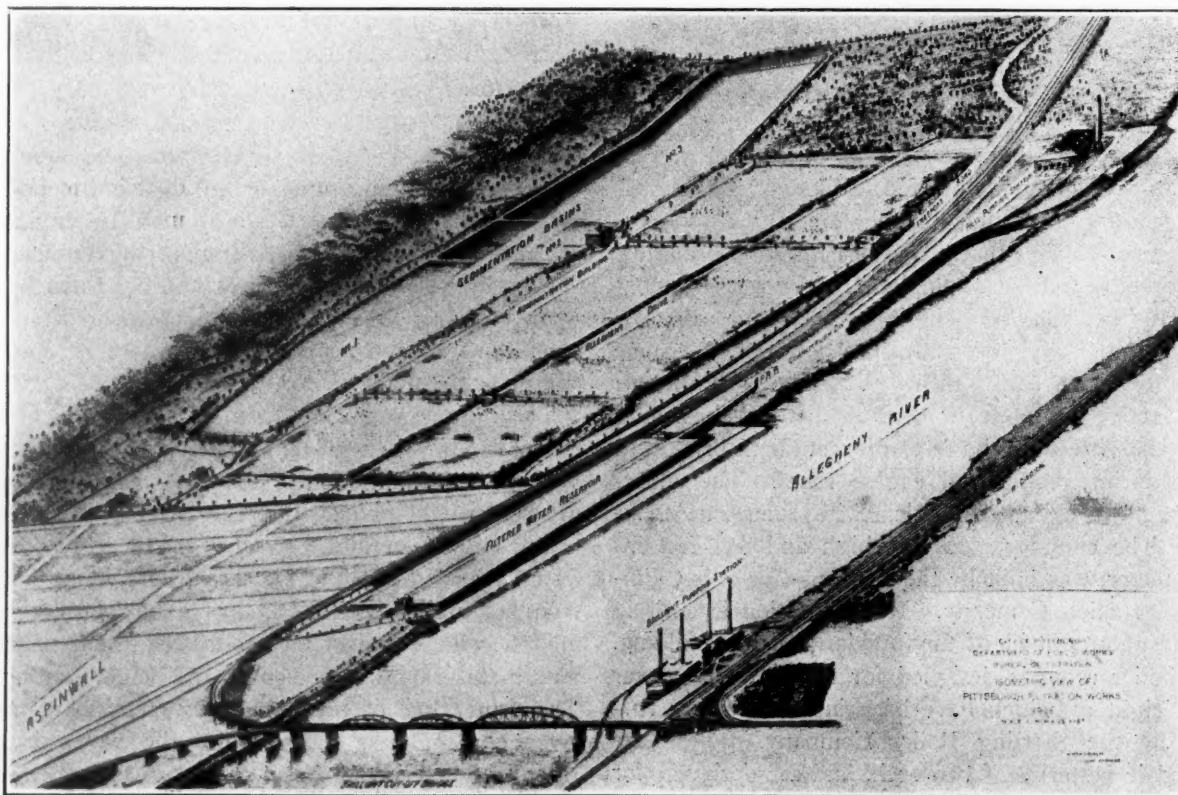
The Allegheny river water is highly polluted and contains at times large quantities of silt. A considerable proportion of this silt is deposited in the receiving basin. The water then flows through cross conduits extending the entire width of the basin at the toes of the embankments between it and the two sedimentation basins, and enters the latter basins through a number of circular openings at the tops of the conduits. This method of introducing water distributes it evenly across the width of the basins and insures a slow and uniform movement through them. The length of each basin is about 1,300 feet, and in passing this distance more of the suspended matter is deposited. The uniform flow is still further promoted by the fact that the water leaves each basin through a series of openings similar to those by which

it entered it. These openings lead to the settled water conduit, which varies in diameter from 7 to 8 feet, extends the entire length of the three basins and is provided with gate chambers at the head of each gallery. From the gate chambers the water enters four pipe galleries, and by means of side connections on the pipes therein can be admitted to any filter through an inlet-controlling valve.

The filtered water is collected into a main collector which conducts it to the filtered water conduit, through which it passes to the filtered water reservoir, the high-water level of which is 2 feet lower than the bottom of the basins. From this reservoir the purified water passes through two 72-inch riveted steel pipes, encased in concrete and laid beneath the bed of the Allegheny river, a distance of 1,300 feet, and is conducted to the Brilliant pumping station 2 miles distant and 6 feet lower than the floor of the filtered water reservoir, from which point it is pumped to the Highland reservoir for distribution.

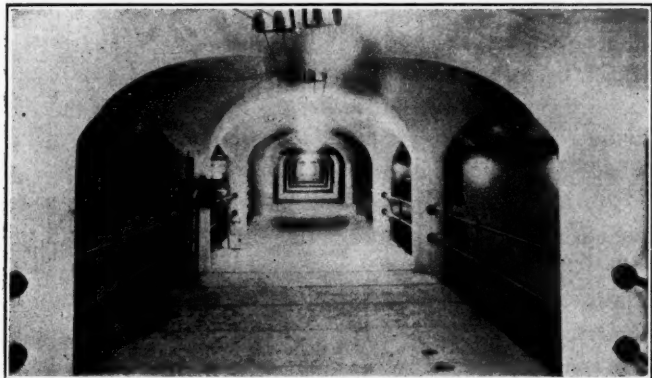
There are two sedimentation basins, each about 1,350 feet long and with an area of 12 acres and a capacity of 54 million gallons; and between these is the receiving basin, which has an area of 3 acres and a capacity of 12 million gallons. The embankments separating these are of selected clayey material obtained from the excavations. The bottom and inside slopes of all the basins are lined with 6 inches of concrete, which is protected from frost and wave action between high and low-water levels with concrete slabs 7 feet square and 12 inches thick laid upon an 18-inch bed of gravel.

There are 46 filters, each having a net area of 1 acre, and these are arranged in batteries of six on either side of the four pipe galleries. These galleries are each 31



ISOMETRIC VIEW OF PITTSBURG FILTRATION WORKS

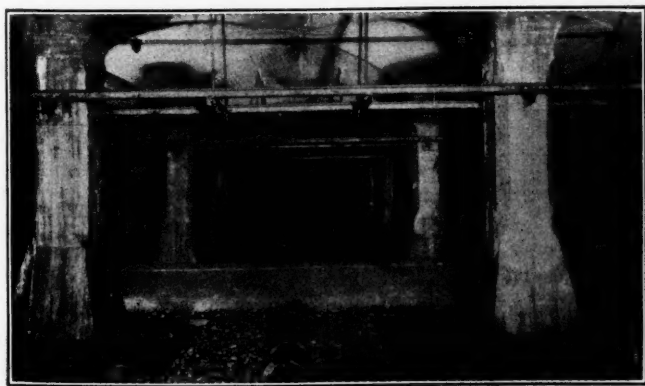
feet wide and 1,000 feet long. Crossing these and bisecting their length is a 16-foot roadway which serves as the main entrance to the galleries. Under this roadway is the 60-inch rising main from the Montrose pumping station, to what was formerly Allegheny, but is now called the North Side.



INTERIOR OF A PIPE GALLERY

These four galleries contain all the piping required for supplying settled water to and taking the filtered water from the filters; also all valves and apparatus necessary for properly regulating and controlling the water. They also contain the sand washers and piping system used for transporting and cleaning the filter sand, which are thus protected from the inclemency of winter weather. Near the center of each gallery is a heating and ventilating plant comprising an 8-foot Sturtevant fan driven by a motor which, with the necessary steam coils, provides ample ventilation in the galleries and regulates the temperature therein, as well as in the filters. The filters and galleries are all covered by groined arch roofs supported on piers, spaced 15 feet between centers, the whole construction being of concrete of the type commonly employed for such structures. Over the roof is spread 3 feet of soil for additional protection in cold weather. The surface of this and the surrounding ground has been made into a park, with shrubbery, drives, paths, etc. Filters and galleries are lighted by electricity, and the latter also have skylights with reflecting canopies in the roof. The entrance openings to the galleries are in the side walls and are ordinarily kept closed by sluice doors which are operated hydraulically.

The filters are approximately 163 by 263 feet in plan and 12 feet high from floor to roof. In each there are



INTERIOR OF A FILTER, SHOWING LATERAL COLLECTOR

about 170 concrete piers 22 inches square. The under drainage system consists of a concrete main collector upon the floor of the middle bay and extending the entire length of the filter, which is fed by lateral tile collectors laid with open joints in each of the transverse bays. After these drains were laid upon the filter floor and their joints protected with large gravel stones laid by hand, 12 inches of gravel was placed in four layers varying in size from 3 inches to gravel a little coarser than the filter sand employed. Following this 12 inches of gravel, filter sand was placed at a uniform depth over the entire bed; this depth varying from 24 to 48 inches in the different beds. In the filters are sand scraping and restoring machines which are carried upon a track system which is fastened to and supported by the piers.

The filtered water reservoir is about 1,200 feet long and has a floor area of about 6 acres and a capacity of 50 million gallons when holding 25 feet of water. This reservoir also is covered with a groined roof similar to that over the filters. The roof is supported by 775 piers, each 27 inches in diameter, 21½ feet high and spaced 18 feet between centers. From the inlet gate chamber at one end to the outlet gate chamber at the other extends a reinforced concrete conduit 8 feet in diameter, which serves not only as a by-pass for conveying the water from the filters to the Brilliant pumping station when the filtered water reservoir is empty; but also as a division wall which allows the reservoir to be filled to about one-half its full depth on one side only, should it be desired to clean or repair the other side.

The filters are filled to a depth of about 4 feet above the sand, and water is intended to pass through them at a nominal vertical rate of 9 feet in 24 hours. The entire capacity of the works is estimated at 105,000,000 gallons per 24 hours. In constructing the filters 275,000 cubic yards of filter sand and gravel were used.

The method adopted for cleaning the filters is one which, we believe, has not previously been employed. On the tracks previously mentioned a motor-driven machine travels slowly, and a horizontal spiral screw which is suspended from this cuts into the sand to the desired depth and draws that removed into the center of the machine, whence it is removed by a bucket elevator and dropped into a sand ejector. The scraping machine draws behind it a hose reel containing two lines of 3-inch hose, one connected with the water pipes supplied by the D'Auria pumps and the other connected to the sand pipes leading to the sand washers in the galleries. The water is removed through the sand pipes to the sand washers by the moving water in the manner now employed by most large filter plants. The clean sand from the sand washer is similarly conveyed by water through a system of pipes to whichever filter is ready to be re-sanded. The re-sanding is done by a sand restoring machine which travels on the same tracks as the sand scraping machine. The cleaned sand and water fall into a large tank in the sand restoring machine, the water is forced by a motor-driven centrifugal pump through hose line and pipe to the gallery drain, and the sand is lifted out of the tank by means of a flight conveyor and delivered to a large spiral screw

which distributes it smoothly and evenly to the desired depth. It is specified that the scraping machine have a capacity of 15 cubic yards of sand per hour and the restoring machine 30 cubic yards. These machines were furnished by the Blaisdell Filtration Company.

The entire cost of the plant, including low lift pumping station, basins, filters, filtered water reservoir, river lines and connecting conduits was \$4,900,000. In this work were included 775,000 cubic yards of excavation, 250,000 yards of concrete, 345,000 barrels of cement, 275,000 cubic yards of filter sand and gravel,  $3\frac{1}{4}$  miles of concrete conduits,  $2\frac{1}{4}$  miles of pipes, 16 inches diameter and larger and 17 miles of pipes smaller than this; 26 miles of track and 5 miles of roads, and 63 miles of cables for electric power and light, telephone, etc. Contracts for this work were awarded in 1905 to the T. A. Gillespie Company. Mr. Morris Knowles is the chief engineer of the work.

#### STREET WORK AT ROANOKE, VA.

THE report of the City Engineer and other officials of Roanoke for the year 1907, which has recently reached us, gives considerable detailed information concerning the cost of street work in that city, although, unfortunately, details of the construction are not given. The figures presented show that 2.24 miles of street were macadamized during the year; 0.41 mile received tar macadam or tarvia; 0.49 mile, Belgian block; 2.71 miles, vitrified brick; 0.35, old vitrified brick; 0.22, cobble stone paving; 5.71 miles of sidewalks were paved with granolithic and 4.95 miles with brick; 2.80 miles of granite curbing were laid and 0.45 mile of granolithic. The street grading cost in most cases \$.40 per cubic yard; but averaging all streets and classes of material, the cost was \$.461 per cubic yard. Of macadam, 3,765 square yards were laid at an average cost of \$.504. A total of 7,118 square yards of tar macadam and tarvia were laid at an average cost of \$.53. Of granite curbing 5 inches thick and 18 inches deep, dressed on top and face, 14,780 lineal feet, laid in stretches of from 83 feet to 3,755 feet each, cost an average of \$.0778. Old vitrified brick were used for paving 6,738 square yards of street at an average cost of \$1.22, and 56,371 square yards were paved with new vitrified brick at an average cost of \$1.83. Two stretches of Belgian block totaling 9,111 square yards cost an average of \$2.63, and two stretches of cobble stone totaling 1,282 square yards cost an average of \$.46. Three stretches of granolithic curbing from 73 to 2,045 feet in length cost an average of \$.26; 26,129 lineal feet of brick sidewalk (width not mentioned), in stretches of from 50 to 3,690 feet each, cost an average of \$.68; and 165,855 square feet of granolithic walk, in sections varying from 70 to 10,496 square feet each, cost an average of \$.12.

The city operates its own crusher for obtaining broken stone, and during the year crushed 4,966 cubic yards at a cost of \$2,431.66 for labor and \$942.82 for coal, dynamite and other supplies; the average total cost being therefore \$.68 per cubic yard.

## WATER RATES

Methods in Use for Fixing Rates—Meter Rates, Flat and Graded—Items of Operation Cost—City and Private Rates—Court Decisions

BY DON E. MOWRY

WATER rates differ from rates charged for other municipal services in that they represent a charge for an indispensable good. For this reason water is looked upon as a sort of inalienable right that should be distributed gratis by the cities without restriction as to quality or place of consumption.

In the United States we have had eight ways by which rates are measured:

1. Upon the size of the dwelling-house, relative to the number of families therein.
2. Upon the number of water-using appliances used by the customer. A certain definite yearly charge is made for hydrants, bath-tubs, water closets, wash basins, sinks, etc., the charge varying from \$1 to \$5.
3. Upon the nature of the business for which water is used, distinction being made between dwelling houses and business places, armories, stores, offices, etc. A special rate is fixed for each, or several are grouped and a uniform rate is charged for the group.
4. Upon the size of the service pipe. (This method would be reasonable enough if the water ran all of the time, and the charge was for the entire amount that could be run out in a certain time; otherwise it is unreasonable.)
5. Upon the number of faucets. In Beloit, Wis., the rate is \$4 per faucet. Four faucets cost \$16 per year.
6. Upon the street frontage of the property which the consumer occupies.
7. Upon the value of the consumer's property.
8. Upon the allowance which was made for the cost of water consumed in quelling fires, flushing, etc., although this cost should have been taken out of the public treasury.

About 1890 these methods began to be abandoned in many of our cities and there was substituted therefor the water meter. In some localities, to-day, the introduction of water meters meets with disfavor. However, the meter tends to restrict the consumption within sanitary limits, for wholesale consumption of water is unsanitary—disease occasioning—because such consumption increases the impurity of the public water supplies. Minimum rates can be charged, and are charged in many instances. The expense of operation is decreased; large quantities of waste water need not be pumped and distributed for no effective purpose. Meters should be placed at the end of every service pipe, not excepting hydrants; at pumping stations, to measure the amount going out; and they should be owned and repaired by the water department, their first cost being included in the charges of operation.

#### METER RATES

There are two methods of measuring by meter: (1) by the flat rate and (2) by the sliding scale or graded rate.

(1) By the flat rate, we mean that the consumer pays one definite rate per 1,000 gallons for every 1,000 gallons used, whether 1 or 100. The rate appeals to the small consumer, is founded on sentiment and false in practical operation. Out of 88 water plants investigated by John B. Heim, Water Commissioner, Madison, Wis., 13 claimed to have a flat rate, while in only 2 could one say that such a rate prevailed, inasmuch as the others had a minimum rate. The minimum rate is incongruous with the flat rate principle. It is, in fact, a graduated rate, based upon the same factor as the graded rate, i. e., the increased cost in proportion to the amount of water consumed.

Certain fixed charges must be made for maintenance, connection, central station, equipment, etc., which is the same in all cases, no matter what the amount consumed. Operating expenses do not often rise in direct proportion to the increased consumption. When the amount of water consumed is small the rate is comparatively high, and vice versa. The consumer, therefore, who uses large quantities of water should be given a lower rate because the cost of his service is relatively small. It would be impracticable to fix a different rate for every consumer. The same effect is secured in what is called the sliding scale or graded rate.

(2) In the graded rate plan the consumer is charged a certain rate per unit for the first unit, then a slightly lower rate is charged for the next unit, or five units, and so on up until a minimum rate is reached, after which decreased consumption is not followed by a decrease in the rate. Each consumer under this system pays the same rate for the first unit, and also for succeeding units. Here is an example of the sliding scale in practical operation in Madison, Wis.:

First 1,500 cu. ft. (minimum).....	\$2.00
Next 5,000 cu. ft. at 13 cents.....	6.50
Next 15,000 cu. ft. at 10 cents.....	15.00
Next 208,000 cu. ft. at 5 cents.....	104.25
Total 230,000 cu. ft.....	\$127.75

#### TOTAL RATES

What part of the total expenses of the water company should the total annual rate include? What part of the total expenses of a municipal plant should be assessed on the property holders? The total cost of operation Mr. Emil Kuichling has divided into eight items of expense:

1. Interest on bonded debt incurred for construction.
2. Yearly payment into sinking fund for ultimate liquidation of bonded debt.
3. Yearly payment into fund for periodical renewal of perishable parts of the works.
4. Yearly operating expenses.
5. Average cost of usual yearly extensions.
6. Yearly contribution to fund for payment of anticipated future extensions.
7. Interest on capital expended for construction over and above bonded debt.
8. A profit on the investment, over and above the previous items.

In practice, items (2) and (3) are often combined, for they constitute a large or small part of the yearly

cost according to what proportion of them are left for posterity to pay. Items (1) and (4) should be paid in full by the existing inhabitants. Item (5) is so variable that it may be met by annual appropriations according to the needs and paid by general taxation under "construction." Certain items mentioned by Mr. Kuichling should be omitted in case of municipal ownership.

There are three main classes of charges for water which could be assessed in different ways. (1) Private consumption should be assessed to the user. (2) Water used for the general city benefit should be paid for in the form of taxes. (3) For the particular benefit derived from the reduced fire loss, or reduced premium for protection for such losses, an additional assessed valuation should be added to the property. This feature is taken care of in Milwaukee by the assessment of part of the cost of new mains on the abutting property, the proceeds being turned into the fund for new construction.

#### CITY AND PRIVATE RATES

The difference between the rates charged by a municipally owned plant and those by a private company is one of degree. Expenses vary somewhat, and the rates vary in proportion. A publicly owned plant should not operate for profit and this item of expense may be stricken from its budget. A service undertaken by a municipality for its own benefit is essentially a co-operative enterprise. In the operation of a city plant other expense items are lacking, namely: (a) there is no need of anticipating future extensions, (b) interest on all capital expenses for construction over and above the bonded debt is unnecessary, (c) there are no taxes, and (d) public ownership involves lower capital charges, inasmuch as the city can float bonds at a lower rate of interest by reason of the better security. In the study which I have made of 44 private and 56 public water works, the facts seem to reveal the truth that publicly owned plants operate upon a lower rate schedule basis than do plants which are owned privately.

Little information can be gathered for a statistical comparison by considering the actual rates in different cities, for the purpose of finding out whether certain rates are unjust. This is because of the great variation in conditions. Local conditions must be determining factors of far more influence in fixing rates than is the cost of water elsewhere. Other things being equal, a community with large private lawns to sprinkle, and many plumbing fixtures in the majority of homes, requires more water per capita than one in which these conditions do not prevail. Greater pressure is needed in towns with six-story buildings. The two-story village may enjoy a gravity supply from a high mountain affording relatively heavy pressures.

#### COURT DECISIONS

The Supreme Court of Pennsylvania has held that a Water Commission has undoubted authority to determine the rates of prices to be paid by citizens for the use of water. Water rents, it held, are not taxes. "There is no obligation on the consumer's part to take the water, but if he does take it he must pay for it according to the terms and conditions made public accord-

ing to such expressed contract as he may have made."

The Supreme Court of California has held that the value of the property which was necessarily used in furnishing the water was the basis upon which to determine the amount of revenue to be provided by the ordinance fixing the rates; and while the cost of the plant was an element properly to be considered, its value was not conclusive.

The basis of all calculations as to the reasonableness of rates to be charged by a corporation under legislative sanction must be the fair value of the property being used by it for public convenience. (18 Sup. Court, 888.) The public has a right to demand that no more be charged for a service than such service is reasonably worth. A private company is entitled to ask a fair return upon the value of that which it employs for public convenience.

### STREET SPRINKLING AT NEWPORT

THE Street Commissioner of Newport, R. I., J. K. Sullivan, has published in his annual report for 1907 unusually complete data concerning the cost of watering the streets of that city, the amounts of water used, etc. About 67 miles of streets were watered from May 13 until November 14; after the latter date the work being continued only by the few city teams, the hired teams employed during the summer being laid off. Eight double carts having a capacity of 600 gallons each (except one of 700 gallons capacity), and ten single carts, six having a capacity of 350 gallons and the other four of 300 gallons, were employed in this work. The total number of wagon-days of sprinkling was 1,973.2. During this time 29,622,914 gallons of fresh water and 2,245,075 gallons of salt water were used. The fresh water was sprinkled over 14,918.61 miles of streets and the salt water over 1,812.24 miles; the former having a total area of 202,983,848 square yards and the latter of 30,867,467 square yards. The number of loads distributed a day by each cart varied from 27 to 50 (excepting one cart which averaged about 10 loads), the general average being 37 loads a day. The amount of fresh water used per mile of street watered once (the average of the entire season) was 1,986 gallons, and the amount per square yard was 0.146 gallons. The amount of salt water used was 1,239 gallons per mile of street and .0727 gallons per square yard.

During the year two dust laying preparations called Dustoline and Westrumite were tried. The Dustoline was delivered in tank cars and cost 8 1-2 cents per gallon, f.o.b. Newport. It was applied with the regular Studebaker side sprinkler watering cart. In the first application 6,163 gallons were used over an area of 34,205 square yards, equal to 0.18 of a gallon per square yard. The weather was very dry, and this application was effective for over eight weeks; dry weather favoring long continuance of the dust-laying effect. Further applications were made during the season totaling 21,078 gallons. It was found that, during this summer, the cost of applying this material to a 23-foot

roadbed was \$312.12 per mile per season, the cost of water for the same width of roadbed being about \$158.67. The Dustoline, however, keeps the dust laid continually, while the effect of water is temporary. On a stretch of Bellevue avenue which had been treated with tarvia a first application of this preparation was made July 4, the second July 18, the third August 8. The amounts used on this street for the first application were 0.034 of a gallon per square yard, the second .032 gallon, and the third .0108 of a gallon per square yard. A section of the same street which had not been tarviated was given .18 gallon per square yard of Dustoline on June 8 and another on June 28; a second application over both stretches on August 13, using an average of .0357 gallon per square yard, and a third on August 30 using .0263 gallon per square yard. The average cost per gallon of this material applied was \$.0891. The Westrumite was obtained in barrels and mixed with water and applied with a watering cart. The results were not considered as favorable as those with Dustoline, however.

### SEPTIC TANK PATENTS

Recent Decision Made Basis of New Classification by  
Professor A. Marsden—Septic Action  
as Defined by the Court

THIS subject, which has assumed such importance in many cities of the country and with all sewerage engineers during the past year or two, was the theme of a paper read before the League of American Municipalities by Prof. A. Marsden of the University of Iowa. Prof. Marsden, after reviewing the decision of the Supreme Court which has been referred to by us several times during the past few months, accepts this as practically final and endeavors to base thereon a new distinction between the various classes of sewage tanks and new definitions of such.

On this basis he divides sewage tanks into three classes. "First, settling tanks. These are of comparatively small size and are designed to remove sludge mainly by simply settling, although in addition some bacterial action will necessarily take place. Provision must be made for frequent removal of sludge.

"Second, bacterial tanks. These are larger, comparatively to the volume of sewage, than settling tanks, and bacterial action becomes especially prominent in them, though sludge settles out much as in settling tanks. The design and method of operation of the tank must be such as to permit the action of all three of the general classes of bacteria, including aerobic and facultative as well as anaerobic.

"Third, septic tanks. These are sewage tanks in which the action of all other bacteria than aerobic is excluded. Heretofore classes two and three of sewage tanks above have generally been called septic tanks." The writer proposes their division into two classes as above because of the recent septic patent decision, in which one of the U. S. Circuit Courts of Appeals has

put forth what may be considered legal definitions of the term septic action and septic tank. To quote the language of the Court: "Septic action is the action of a colony of anaerobes preventing the accumulation of solids unhampered by the presence of aerobes or oxygen or agitation." The decision of the Supreme Court held that the treatment of sewage in this way is covered by the Cameron patent, although the apparatus patent was not sustained. Prof. Marsden quotes from the decision to show that "in the mind of the Court there exist two kinds of sewage tanks in which bacterial action takes place, viz., septic tanks, or those which permit only anaerobic action, and non-septic tanks, or those which permit aerobic action." The Saratoga plant was taken as embodying the Cameron process and no oxygen was found in the effluent from this, while from 24 to 45 per cent. of free and absorbed oxygen was found in the effluent from other tanks which were advanced as anticipations of the Cameron tank.

The author believed that even such as do not accept the decision of the Court as being scientifically correct should be willing to accept this new classification, since it will "do much to clear up the general confusion of ideas since the decision."

"It is impossible, at present, to state just what features of design and operation are essential to the difference between bacterial tanks and septic tanks, as such tanks are defined above. Indeed, the same tank may be bacterial or septic depending on the method of operation. It must be remembered that the apparatus claims of the septic patents were not sustained, so that there are no patents on any particular kind of sewage tank. Any municipality or person may build any kind of a sewage tank desired, and be guiltless of infringement, provided the tank is not operated in such a way as to prohibit every sort of bacterial action in it, except anaerobic. We may infer from the language of the decision quoted above, that emptying the tank upon a sludge bed once in six weeks or less, would obviate infringement. The expense of doing this would be very small, as in most plants the tanks can be emptied by simply opening a valve. In many cases the sludge could be allowed to remain without nuisance upon sludge beds where it would largely be destroyed by bacterial action.

"It was recently stated to the writer by the chemist of the Board of Health of a certain important State that chemical analyses of the effluents of most of the numerous so-called septic tanks in that State had shown free oxygen present at the outlet. This arouses a query as to whether or not similar conditions may not be found elsewhere. Evidently this matter should be thoroughly investigated in each State, or, from the language of the court decision quoted above, the layman at least would judge that such tanks are not infringements on the septic patents."

The author states that the engineering experiment station of the Iowa State College is planning careful and extensive scientific investigations to determine what features of design and operation will or will not permit the presence of aerobic organisms or free oxygen in the effluent.

### BEAUTIFYING OF BIRMINGHAM

Most commendable activity is being shown by Mayor George B. Ward, of Birmingham, Ala., in enlisting the active assistance of all citizens and local corporations in an effort toward beautifying that city. Every industrial plant has received from the Mayor a request to plant ivy and clinging vines around their shops and see that grass plots or plants take the place of any unused ground now uncultivated or grown wild. To the women of the city has been sent a letter requesting their efforts toward beautifying their own homes and surroundings, especially by growing flowers either in gardens or, if they do not possess the space for this, in window boxes. The women of the town are also requested to organize themselves into "Block Improvement Societies." Accompanying each of these letters are very tastily gotten up pamphlets giving suggestions concerning what can be done along these lines. The one sent in connection with the letter suggesting the organization of Block Improvement Societies contains also a form of constitution, in which the object of the societies is stated to be "to stimulate interest in civic improvement and public affairs; to encourage and assist the authorities in securing cleaner streets, alleys and public places, more parks, children's playgrounds and boulevards; to encourage the more general planting of trees, flowers and lawns, the improvement of vacant property, and in general to do all things that would aid in the creation of a city beautiful, healthy and pleasant to live in." To afford a stimulus, the city offers 44 prizes, to be awarded next spring, four to each of the eleven wards of the city; one of these four being to each of the following:

- 1st. To the most attractive window garden and boxes.
- 2d. Premises, large or small, kept by renters.
- 3d. Premises fronting less than 100 feet kept by owners.
- 4th. Premises fronting 100 feet or more kept by owners.

The pamphlets give instructions and suggestions concerning the best kind of grass to plant and also concerning the planting and cultivation of various classes of flowers, explaining under what conditions they are most thrifty and appropriate; instructions for making successful lawns, and gives standard prices of seeds and bulbs of the common varieties of flowers, grass, etc.

Among the general suggestions given, a few are as follows:

Pull down your fence. The City will haul it away and keep off the cows. If you can't be induced to part with it, fix it up and paint it.

Exercise the same supervision over your sidewalk as over your front yard. Sidewalks are the index of the kind of people inside.

Plant a strip of green in bare places along sidewalk. The City will furnish street sweepings, if the haul is not too long.

Sweet peas, climbing nasturtiums, castor beans, hollyhocks, or even sunflowers, make an effective screen to hide old fences, sheds, or other unsightly views. For permanent screens use hardy shrubs or the quickly-growing vines.

Encourage your children to help the good work along by training them to pick up papers, sticks and other rubbish, wherever found.

When street or sidewalk is torn up and is not properly repaired, "call up" the Mayor's office and give the name of party responsible.

## PRIVATE USE OF SUB-SIDEWALK SPACE

In New York City Such Space Must Be Purchased—  
Provision for Fire Hydrants, Lamp-Posts, etc.—  
Large City Revenue Therefrom

THE question of the right to occupancy of space beneath the sidewalks of New York is one to which the ordinary citizen has given little thought. Indeed, the average owner of New York realty is densely ignorant on this question, and there are doubtless many owners who consider themselves entitled to take and use the sub-sidewalk space fronting their property whenever and however they will. As a matter of fact, the city is the absolute owner and has absolute control of such space.

When the width of a proposed street is determined, the measurement designated includes the distance to be allowed for sidewalks on either side; so that on a built-up street the city owns from building line to building line, and any use of the space beyond this line for other than stoop or area purposes is unwarranted in law except by special permit. However, it was the practice for many years for owners simply to appropriate such under-sidewalk space as they wished; and they did so without let or hindrance because, until recently, no particular attention was paid to this matter by city authorities. It is true that as early as the year 1824 an ordinance was passed regarding the use of vault space; but for years no active effort was ever made to enforce its provisions, so that to-day the sub-sidewalk space of the city is literally honeycombed. Vaults, storage rooms, coal bins, engine rooms and bake ovens constitute trespasses in all parts of the city. And there is many a barber shop, bowling alley and cafe occupying sub-sidewalk space for which no legal permission has been asked or granted. As this use and occupancy has grown up through the years by custom and practice, the city authorities have been rather disposed to overlook the trespass, and to seek rather to safeguard the future than to dig up past offences. Old-established encroachments are therefore allowed to remain undisturbed. But for the past few years the rights of the city have been carefully safeguarded and a vigilant eye has been kept on all new building operations and alterations, so that all new sub-sidewalk use has been obtained only through proper permit and by adequate payment therefor. At the present time all plans filed in the Building Department that pertain in any way to the use of such space are called to the attention of the Bureau of Highways, and no building permit is issued unless the proper permit for sub-sidewalk space is also obtained.

The present control of sub-sidewalk or "vault" space is vested in the Bureau of Highways, under the Department of the Borough President. The enactments covering the use of such space are comprised in sections 169 to 179, Code of City Ordinances. Briefly summarized, they empower the President of the Borough to grant permits for these, under certain restrictions and subject to certain reservations. It is stipulated

that the rate for such use shall be "not less than 30 cents nor more than \$2 per superficial foot." For some years past the minimum rate has been fixed at \$1 per superficial foot. For this purpose the city is roughly divided into five sections, each section having an arbitrary rate, the lowest being \$1; the next, \$1.25, and so graduating up to the maximum rate of \$2. The fee for the use of the sub-sidewalk space in the business section of Broadway or Fifth avenue, for example, would be based on the \$2 rate; so that the builder of a structure fronting 50 feet who wished to use the space beneath the sidewalk, say, 20 feet in width, would be required to pay for 1,000 superficial feet of space at the rate of \$2 per foot, and his permit would therefore cost him \$2,000.

Upon payment of the stated fee and issuance of permit the owner is allowed the use of the stated space free of all other tax or fee and in perpetuity, unless such permit is revoked by the Board of Aldermen. This provision is covered by the following reservation in the application for the permit: "This permit is issued subject to revocation thereof at any time \* \* \* when \* \* \* space occupied by said vault or any portion thereof may be required for any public improvement."

The matter of space for fire-hydrants, lamp-posts, etc., is also covered as follows: The permit is issued "subject to obligation to construct a recess or chamber for existing hydrant or stopcock \* \* \* nor to disturb or interfere with the proper use of any lamp-post, sewer, culvert, etc." Should changes in location of lamp-posts, catch-basins, etc., require the use of different or new space by the city, it is the practice to make such change and appropriate such space as desired on the assumption that the city has the right to do so without consulting or recompensing the holder of the permit. As such cases are not frequent, and in any case entail but a small encroachment on the vault space, the question of the city's right in the matter has never been raised. Nor has there ever yet arisen a case where, after the granting of a permit and its subsequent revocation for city use, the owner has claimed or recovered a rebate on his payment. One exception might be stated in the case of the Waldorf-Astoria Hotel, which in 1895 obtained and paid for a permit to use vault space including not only the sub-sidewalk space, but extending almost to the center of Fifth avenue beneath the pavement. This permit was revoked in short order and a refund made for that part of the payment which covered the space beyond the curb line. But it is seldom indeed that the city has found it necessary to recall its vault space. In the cases where this space was occupied by the construction of the recent subways it was invariably found that such space was being used without permit, and the city simply appropriated its own. Still, it is the right of the city to take back this space whenever needed for city improvements; and the holder of a permit must take his chances of losing the money such permit costs him.

The cost of vault permits for some of the well-known buildings of the city has been as follows:

No. 1 Wall street, corner of Broadway, occupying

the most costly plot per sq. ft. in the city, has only a small frontage, its superficial feet of vault space being 940.81, the cost of which was \$1,881.60.

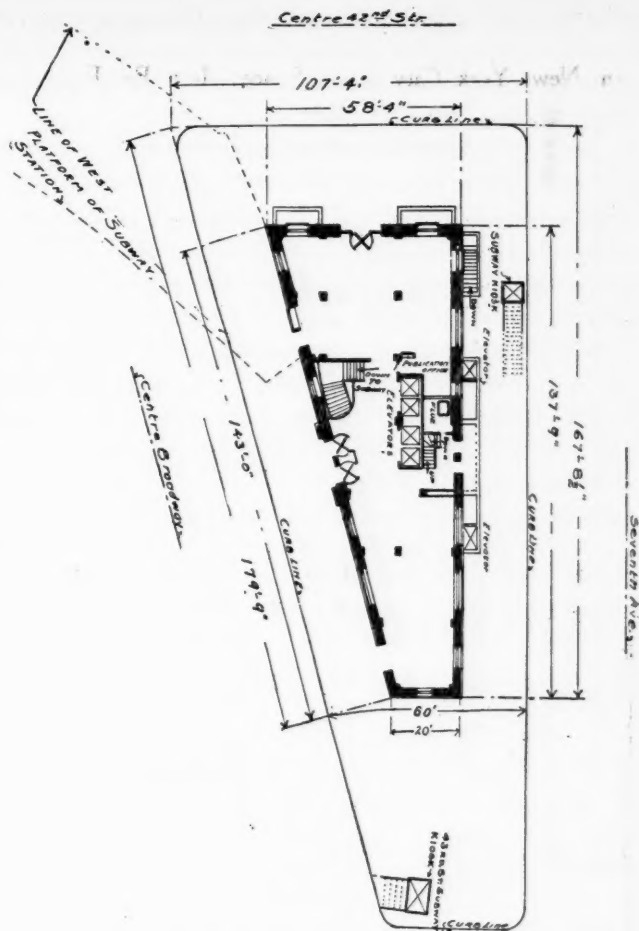
The Singer Building has a comparatively small frontage on Broadway; it uses a total of 1,397.28 superficial feet of vault space, costing \$2,079.56.

The twin Trinity Buildings pay \$10,748.92 for about 5,600 superficial feet.

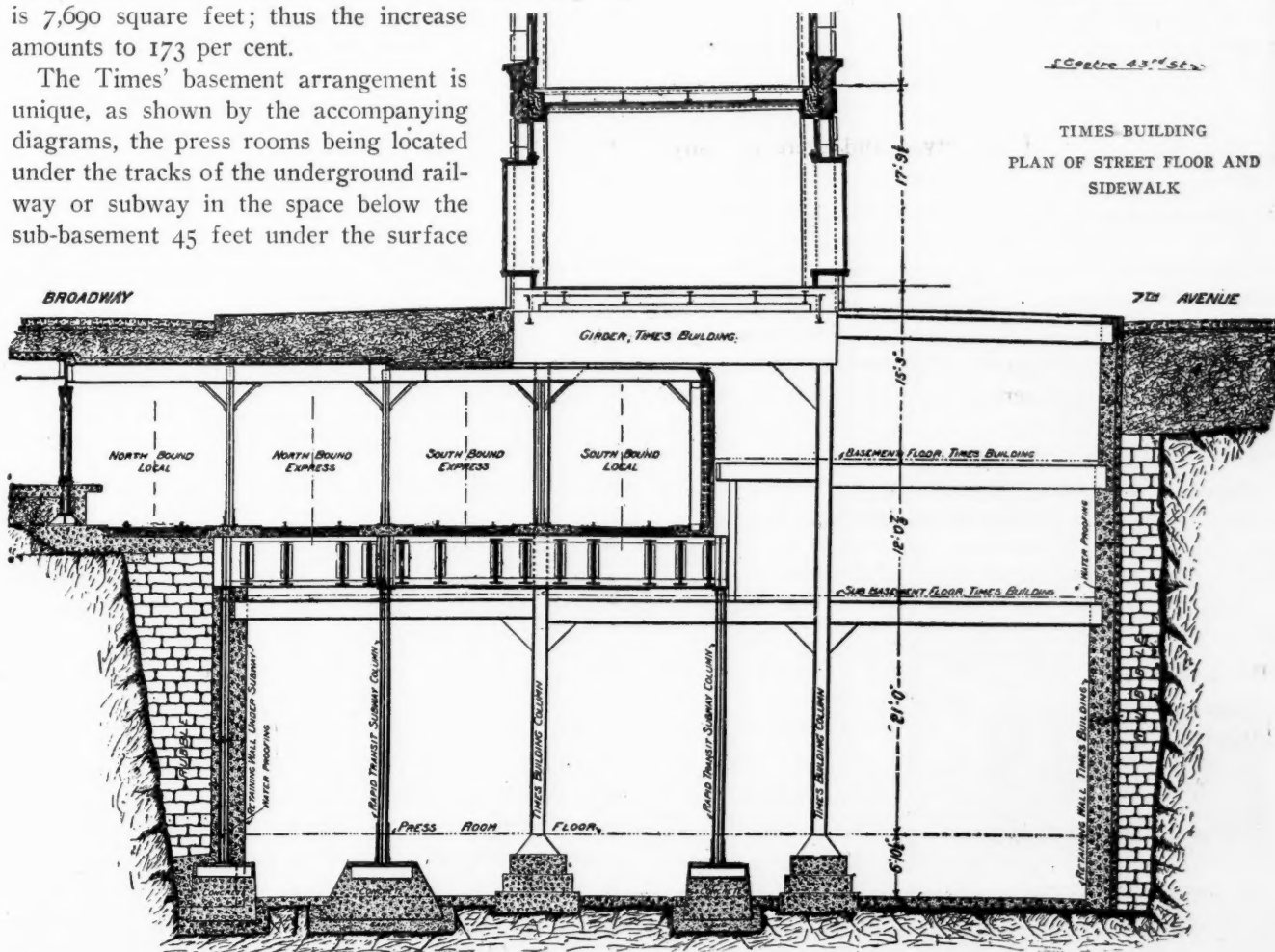
It is interesting to note that in the case of the Times Building the city treasury was twice enriched within a period of a few years. The Pabst Building, originally occupying this plot, paid \$7,950 for its vault space; and while practically new was torn down and gave place to the Times Building, which under its plans paid \$7,970.50.

The Times Building presents an exceptional example of the use of sub-sidewalk space, having a relatively larger amount of floor space underground than any other of the big office buildings in New York. This is rendered possible because it is triangular and is flanked on three sides by streets 100 feet wide, with sidewalks varying from 25 to 30 feet in width. By the use of vault space the Times Building gains 12,228 square feet, or an increase of 225 per cent. over the lot area, so that the area of a floor in the basement of the building is three and one-quarter times as great as the area of the ground floor. The Flatiron Building, similarly located, uses 13,340 square feet of space under the sidewalks, while the area of the building site is 7,690 square feet; thus the increase amounts to 173 per cent.

The Times' basement arrangement is unique, as shown by the accompanying diagrams, the press rooms being located under the tracks of the underground railway or subway in the space below the sub-basement 45 feet under the surface



TIMES BUILDING  
PLAN OF STREET FLOOR AND  
SIDEWALK



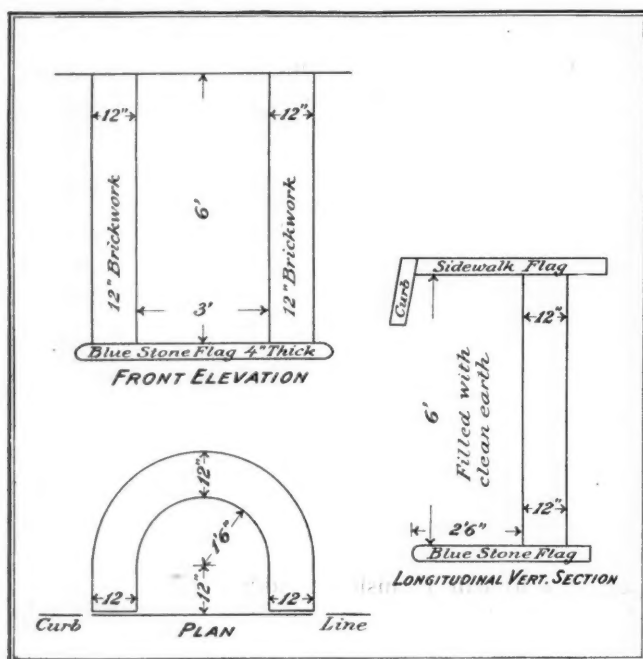
Forty-third Street End of Times Building, Showing Subway Tracks and Sub-sidewalk Basements

of the street. One local and two express tracks run over a corner of this lowest of press rooms, two of the tracks passing between seven columns that support the walls of the Times Building.

The yearly revenue derived by the city from its sub-sidewalk space for the past eleven years is as follows:

1897.....	\$218,770.18	1903.....	\$ 212,988.11
1898.....	179,208.29	1904.....	204,925.73
1899.....	144,307.24	1905.....	328,044.49
1900.....	148,702.91	1906.....	328,087.99
1901.....	277,952.02	1907.....	205,919.83
1902.....	275,766.34		

The total for the eleven years amounts to over two and a half million dollars—quite a tidy sum for Father Knickerbocker to take in as ground rent for a small fraction of the waste space which he owns beneath the sidewalks of New York.

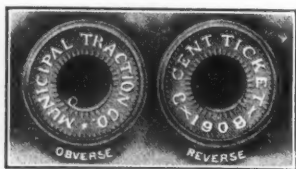


RECESS OR HYDRANT CHAMBER IN VAULT

The standard form of recess for receiving fire hydrants, lamp-posts, water works service boxes and other such public structures as are usually placed just inside the curb, is shown by the illustration above. This is built by the property owner as a part of the vault wall. A 4-inch blue stone flag stone, supported suitably from below, forms a base for receiving the weight of the fire hydrant, pole or other structure, while the 12-inch brick wall serves as a retaining wall to hold the earth filling.

#### METAL CAR FARE TICKETS

THE Municipal Traction Company of Cleveland, with an endeavor to facilitate the payment of three-cent fares, has put into use metal tickets made of aluminum, the



THREE-CENT METAL  
FARE TICKET

two sides of which are shown in the illustration. It is perforated in the center and made thicker at the edges so that it can be readily distinguished in the pocket from other coins or tokens. These metal tickets are manufactured by the American Railway Supply Company of New York.

#### SAN FRANCISCO'S ASPHALT PLANT

THIS municipal plant, which will probably be put into operation this month or next, is intended primarily for street repair work. It is housed in a corrugated iron building with a steel frame supported on a concrete foundation. Electric power is used in its operation and fuel oil is used for producing heat. The following is an abstract of a description of the plant given by the "Municipal Record" of that city:

The mechanical equipment of the plant consists of an electric motor, air compressor, a single drum dryer and melting kettle, oil burning apparatus, hot sand elevator and storage bin. A small hand crane enables the operator to take the bulk asphalt from the yard and dump it directly into the kettle.

The single drum of the sand dryer is 12 feet long, enclosed in a housing of steel plate and brick, and, together with the cold sand elevator, is self-contained. The return induced draft system is used. After being heated in the sand dryer, the sand is raised by the hot sand elevator to the hot sand storage bin, from which it is discharged at the will of the operator into the measuring box described below, and from this flows by gravity into the mixer directly beneath.

The asphalt melting equipment consists of one melting kettle of the plain closed type, with a mechanical agitator. From this the melted asphalt is forced by compressed air through an outside jacketed delivery pipe direct to the measuring bucket, from which it is dumped into the mixer.

The mixer can be used for either wearing surface or binder, and for this purpose is provided with a double set of shafts, the blades of one being adapted to mixing binder, and those of the other to mixing wearing surface. The construction permits of readily interchanging these. The mixture is discharged directly into wagons, which can drive under it, the mixer being directly over the driveway.

The three-ton hot sand storage bin contains a rotating screen and appliances for removing to the yard below the refuse rejected by it. Near this, and also overhead, is the lime dust storage bin, constructed of steel plates of a capacity sufficient for one day's use. This obviates the necessity of handling the dust by shovels while mixing is going on. The flying about of this dust is a source of much annoyance in most plants; being an impalpable powder it seems to be impossible to prevent its blowing about in the air when being handled, getting into the lungs of the workmen and the journal bearings of all the machinery, to the detriment of both. In this plant the dust bin is charged at night. The automatic measuring box is a cube of steel plate attached to the vertex of the hot sand bin; there being a valve between the latter and the box, and another between the box and the mixer. These sliding valves or gates are under the control of the mixing man and are operated by levers convenient to his hand, permitting him to measure and discharge hot sand at will.

The plant was constructed by Hetherington & Berner, of Indianapolis. The entire cost of the plant, including equipment, tools, etc., is about \$10,000.

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## CHANGE OF ADDRESS

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It is further requested that our Subscription Department be notified if copies are not received promptly.

Readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

NOVEMBER 11, 1908

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## Metering Fire Hydrants

THE MUNICIPAL JOURNAL does not hold itself responsible for expressions of opinion made by its contributors, although it is always glad to receive and publish such, even though it does not agree with them. On another page will be found a statement that meters should be placed on all fire hydrant connections. While we believe with the author that it is desirable to meter service pipes leading to all private and public buildings, we think that there are serious objections, with few compensating advantages, connected with inserting a meter between a main and fire hydrant. One serious objection is that such a meter offers an obstruction to the free and voluminous flow of water at a time when everything possible should be done to facilitate the extinguishing of a fire. Moreover, since such a meter must be placed between the curb and the main, and to be of any service must be readable from the surface, this means the introduction of another break in the uni-

formity of the street paving in the form of a meter box cover. We can see no advantage except that of learning how much water is used at a given fire, and this information would and should certainly have no effect in diminishing such amount; moreover, it is generally understood that the amounts so used are almost inappreciable compared to the total consumption.

If it were the idea to ascertain how much water is being used from fire hydrants for street sprinkling and similar services, this can be learned with less expense and little trouble by having a meter placed on the hose connection by which such supply is obtained. But the only proper plan is to permit the hydrants to be used for no purpose but for fires, special appliances being installed for the filling of watering carts.

## San Francisco's "Municipal Record"

IN October there was inaugurated in San Francisco, Cal., the publication of a weekly "Municipal Record," which, if it can maintain the standard which it has already reached, will be far ahead of any municipal publication with which we are acquainted in the nature and amount of information concerning city affairs which it gives to the citizens, as well as in the promptness with which such items are published and the convenient form in which they are arranged. This paper, which at present contains twelve pages, "is published every Thursday by the Board of Supervisors of the city and county of San Francisco for the purpose of furnishing information concerning public improvements and the work of the several municipal departments. Copies can be obtained at the various department headquarters, or a copy will be mailed regularly to any person who will furnish his address to" the clerk of the Board. How closely San Francisco's "Municipal Record" keeps its citizens in touch with city affairs may be indicated by a brief reference to the contents of a single number. An illustrated description of the municipal asphalt plant which has just been completed furnishes an attractive article for the first page; and the report of the consulting engineers on one of the proposed water supplies should also be of general interest. The remainder of the paper is largely taken up with definite facts, figures and statements, including the summary of the proceedings of the Boards of Supervisors, Health, Public Works and Education and of the Fire and Police Commissioners. Lists of applicants for liquor licenses and building permits during the previous week are given. The Bureau of Engineering reports the progress made in preparing plans for various contemplated improvements, some being reported "as 30% completed," "under way," etc. Information is given concerning work being carried on by the Bureau in testing pipe joints, making hydrographic surveys looking to the location of sewer outlets, etc. The City Architect also gives progress report showing the existing condition of plans for various schools and other buildings. The Street Cleaning Department gives a statement of expenses of its work each day during the week, and the streets which are being swept regularly. The Street Repair Department gives a tabulated state-

ment of its expenditures for the week, dividing these under the heads of total labor, total material and teams, number of square feet paved with stone blocks, etc.; these being also sub-divided according to the street on which the work was done. Another table gives the list of bids called for, arranged like the table published by us giving similar information. The cost of all sewer connections constructed during the first two weeks of September is given, containing in detail the dimensions of the trench, cost of labor, inspection, cartage and repaving, and the nature of the soil excavated. Other tables give in detail permits issued for street work and contracts let during the week for various public improvements, these giving location, name of contractor, price, date, when required to be completed, etc.

Instead of being ancient history, as are reports of this kind appearing in annual city reports six or twelve months after the close of the year to which they apply, these have a thousand fold interest given to them by informing the citizens of what is going on around them at the present, or is contemplated for the immediate future. Moreover, with this detailed information furnished weekly and kept practically up to date, it will not only be possible to know what has been done, but to keep in touch with work in progress and be able, by injunctions or otherwise, to put an immediate stop to any practices which are improper.

We believe that a publication of this kind cannot fail to produce good results, and those in several directions. An administration will not furnish such detailed information concerning all its actions unless it is satisfied that they will stand the investigation of all interested citizens. Moreover, the fact that it does thus freely inform the citizens concerning all its operations must inspire in them a greater confidence in its honesty. The citizens themselves, finding it so easy to learn about the doings of the government, will, we should think, take a greater interest therein and become better citizens. Reference was made a few weeks ago to the growing sentiment among public service corporations toward welcoming and approving of commission control and publicity of the conduct of their various services. We believe that the same advantages are attached to publicity in connection with the operation of municipal departments and that such publication will go far toward inspiring a mutual confidence between citizens and officials, a greater sense of responsibility in the latter and a general raising of the tone of the service throughout all departments and grades.

#### TRENCHING STREETS IN WINTER

AMONG the cities in the northern part of the country the winter season introduces many difficulties and makes necessary many precautions which are due to the rigors of the climate. In many of the southern cities the digging up of streets during the hot weather of summer is prohibited for sanitary reasons. In Boston the exact opposite is the case, and permits for opening the streets in the winter time are refused by the Superintendent of Streets after November 15th; exceptions being made in cases of extreme necessity. "All persons or parties hav-

ing any rights in the city streets are requested to forthwith apply for permits to make all necessary repairs to sewer or water connections, or any other pipes or structures needing addition, as all such applications will be refused after the above date." Superintendent of Streets Guy C. Emerson informs us that this practice has been followed in Boston for more than twenty years and is one of the statute regulations. "The principal reason for this," says Mr. Emerson, "is on account of the impossibility of doing good work in back filling and paving after the weather has been severe enough to freeze the materials. It is very often the case that back filling made with frozen material will, on account of the late rain storms or natural warmth of the ground, become thawed and will settle leaving a crust of earth or the paving spanning a cavity; which condition is exceedingly dangerous to traffic and is likely to result in serious accidents."

#### WATER PIPE ON BRIDGES

FOR carrying a water main across a river a bridge, either railroad or street, frequently offers the most economical solution. This, however, has its disadvantages, especially if hub and spigot joints are used. An instance in point is offered by a line of 30-inch pipe of the Covington, Ky., water works. This was constructed of cast-iron pipe in 12-foot lengths, with lead joints. It was suspended from the bridge along its center line by wrought iron hangers and held in position transversely by bracing. At the extreme ends of the line are the bridge piers, to which the pipe was secured by wrought iron anchor straps. Slip joints were placed at these points to compensate for the expansion and contraction of the line. This line gave considerable trouble by leaking, which was ascribed by George Hornung, in a report to the City Council, to the following causes:

"First.—The vibrations of the bridge occasioned by the many heavy trains moving over it daily.

"Second.—Expansion and contraction, due to the variable weather conditions of summer and winter.

"Third.—The character of the joints (hub or spigot) made use of.

"The first two named causes produce more or less vertical and longitudinal movements of the pipe at the joints, which, with the internal water pressure back of the joints, effects a constant outward creeping of the lead thereof, which ultimately results in leaks at those points.

"Such joints, when they leak, can only be made tight again by driving the lead back into the hub of the pipe and recaulking the joints. This treatment, however, affords but temporary remedy, as under the prevailing conditions the joints in a short time will again creep and leak.

"The repeated caulking of the lead further adds to the trouble, as thereby it becomes hardened to a degree to be almost worthless for such joint work.

"Slip joints are worthless, when placed as they are here, for the purpose of taking up the linear movements of a line of pipe 650 feet long, with hub and spigot joints from end to end. The strains created by such movements are too great to be transmitted by the line joints to the location of the slip joints, hence the movements are taken up by the line joints, which, as a consequence, become impaired as explained.

"I cannot suggest any remedy for the troubles experienced with this pipe whereby the defects can be permanently corrected under the existing conditions of service to which the pipe is being subjected."

Wrought iron pipes with screw joint couplings are commonly used for lines of pipe, either water or gas, when located on or under bridges.

## NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

## ROADS AND PAVEMENTS

## Work Stopped On Informal Contract

Buffalo, N. Y.—The work of repairing Swan street has been stopped on account of doubts as to the legality of the contract to which Mayor J. N. Adam has called attention. The soil under the old pavement is insecure and the old pavement has been sinking for twenty years. When bids were called for only one was presented, that of the German Rock Asphalt Company, which offered to give the guarantees on the pavement required provided a 12-inch instead of a 6-inch base was specified. On this understanding, Council approved the bid and Commissioner of Public Works F. G. Ward ordered the contractor to proceed. This he now declines to do without a signed contract.

## Denison Plan of Sidewalk Building

Denison, Tex.—Denison has been enjoying an era of sidewalk building under the following plan: The city requests a man to put down a sidewalk, say to cost \$30. He replies that he is not financially able to meet the expenditure. The authorities then furnish him a list of contractors and he enters into a contract with one of them, he and his wife signing a material man's lien on the property, which is further evidenced by a note payable at the rate of \$3 per month. The contractor puts down the walk, takes the note to the Board of Commissioners, who pay him the contract amount and the city proceeds to make the collections as specified on the face of the note.

## By-Product of Oil Gas for Dust Laying

Omaha, Neb.—The Omaha Park Board has coated several miles of roadway with Taroleum, a tar-like by-product from the manufacture of illuminating gas from oil. It has found that one application of one gallon to every three square yards would destroy all vegetation, lay all dust, and prevent mud. In one suburb the owners were so well pleased with the first coat that they have had their streets coated again this year. Seventeen miles were so treated this year. Three years' use on some streets is said to have not only laid the dust, but prevented ruts in wet weather, weeds did not grow, and the surface, of whatever material, was made into a sort of asphalt. The cost of coating a mile of macadam roadway 16 feet wide is said to be about \$200 and for 12 feet \$150. This is about the same as the cost of sprinkling for two months. The cost for a square yard is only 2 cents for each coat. Two coats are required the first season and one each year thereafter. Taken all together the experiment is said to have been entirely satisfactory.

## Standard and Ordinary Tests of Paving Brick Made

Scottdale, Pa.—The following tests of paving bricks were made by order of Council by local parties. The test for abrasion was made in a foundry rattler. The crushing tests were made by a hydraulic press in the carshops:

	Abrasion.	Absorp- tion.	Crushing (whole brick).
Bolivar .....	19.85	5	9 tons per sq. in.
Fairmount .....	11.81	3.18	21.75 tons per sq. in.
Layton .....	22.76	4.27	7.50 tons per sq. in.
Mack .....	15.57	3.32	16.50 tons per sq. in.
Pennsylvania clay....	15.36	4.18	16.50 tons per sq. in.

Standard tests of the Layton brick were made by the U. S. Government at West Point and by the Pittsburg Testing Laboratories.

	Abrasion.	Absorp- tion.	Crushing (half brick).
West Point.....	17.27	1.82	4.28 tons per sq. in.
Pittsburg Laboratories	22.09	2.17	4.59 tons per sq. in.

## Temporary Structures for Abolishing Grade Crossings

Detroit, Mich.—Engineer Webb, of the Michigan Central Railroad, has proposed a plan for abolishing all grade crossings on the west side of the city in two years. Already the grades have been separated on all streets crossing street railway tracks. According to the plans for elevating the track on steel structures seven years more will be required for the work. Engineer Webb's plan is for the railroad to spend the whole of its annual appropriation for grade separation on temporary structures of wood or other materials and then gradually replace the temporary work with steel. To facilitate work on the east side Comptroller Doremus has suggested lending the railroads \$200,000 for six months. The city is getting only 2½ per cent. on this money and the railroad is willing to pay 5 per cent.

## Better Specifications for Paving Brick

McKeesport, Pa.—Producing a Pittsburg company's report on a test of paving brick taken from Shaw avenue, Select Councilman J. Audley Pierce addressed a joint session of Councils asking that the street committee take action looking towards a better quality of brick. The brick tested showed a loss of 45 per cent. from abrasion under conditions which should cause a loss of only 20 per cent. according to the requirements in force in Pittsburg. The McKeesport specifications require work to be done with the best quality of paving brick.

## Mayor Employs Secret Service Inspector

Portland, Ore.—At a meeting of the street committee, Mayor Lane announced the source of information which has formed the basis of his recent criticism regarding the construction of cement sidewalks. He said that he had been employing a cement inspector to do private detective work in checking up the work of contractors. The services of the man are paid out of a secret service fund given the Mayor, in accordance with provisions of the city charter.

## New Paving Law for Sacramento

Sacramento, Cal.—City Attorney Partridge has drawn up a new paving law, a voluminous document of 29 sections, for consideration as a part of the charter amendments. It differs from the present law, which provides for assessment arbitrarily upon the frontage of lots by providing that assessments shall be based upon the benefits derived. Provision is also made for the issue of five-year bonds, payable in annual installments by the property owners. Within ten days after award of contract, three-fourths of the property owners may, if they desire, enter into a contract for the performance of the work at a price not to exceed that of the award. The proposed law will not prevent the paving of streets under any other law now existing.

## Slipperiness of Asphalt Discussed

Utica, N. Y.—At a meeting of the Board of Contract and Supply, Mayor Thomas Wheeler, noticing that representatives of the Barber Asphalt Paving Company were present, took the occasion to enquire if an asphalt pavement could be laid in any way so as not to be slippery. State Agent Brudon replied that in Buffalo a grit is used in finishing the surface but that it soon wears off and has no permanent effect. Answering a question as to whether the surface could not be left rough, Superintendent Sweeny said, no, as water would settle in the depressions and cause disintegration. He further said that much of the slipperiness was due to the dropping of oil from automobiles and if that could be prevented conditions would be much improved.

### SEWERAGE AND SANITATION

#### May Lose Million On Sewerage Stock

Baltimore, Md.—City Comptroller Hooker has cautioned the Sewerage Commission not to let contracts to the full amount of the sewerage loan—\$10,000,000. At the figures for which the stock has been selling the sum realized will not be very much more than \$9,000,000. The Commission is accordingly preparing its future contracts with an idea of keeping the total expenditures within the amount available.

#### Investigation of Condition of Mahoning River

Columbus, O.—The State Board of Health will continue the investigation of conditions along the Mahoning river for a long time, perhaps a year, before deciding what cities along its course will have to build disposal works. Three state engineers are engaged continuously on the investigations. It is probable that many of the towns above Youngstown will have to purify their sewage before discharging it into the river.

#### Tuberculosis Primers of School Children

Dallas, Tex.—Mayor S. J. Hay recently asked Dr. T. B. Fisher, City Health Officer, to submit to Dr. H. K. Leake, President of the Board of Health, the tuberculosis primer, which Dr. Fisher wishes to put into the hands of the pupils of the public schools, and Dr. Leake has highly indorsed the movement started by Dr. Fisher. The pamphlet sets forth ways of preventing the contracting of tuberculosis, and of prolonging the lives of those who have already contracted the disease.

#### Typhoid Fever Epidemic

Maywood, Ill.—The village of Maywood is suffering from an epidemic of typhoid fever. Twenty-five cases were reported in ten days, with one death, and several are in a critical condition. It is the belief of the suburban Board of Health that the infection has been caused by house flies carrying germs from the Desplaines river, which at present is stagnant and low; also from the mouths of sewers opening into the stream. The milk furnished to the villagers and water from the municipal plant have been analyzed and found to be reasonably pure.

#### City Engineer Recommends Intercepting Sewer

New Bedford, Mass.—At a meeting of the Board of Trade, City Engineer William F. Williams addressed the members on the question of sewage disposal and harbor purification. The danger in the present system arises chiefly from the contamination of shell fish. For a few years previous to 1904 the typhoid death rate in New Bedford was: 1900, 22; '01, 19; '02, 24; '03, 28. In 1904, at the request of the State Board of Health, an order was passed by the Commissioners of Fish and Game prohibiting the taking of shell fish from the waters near New Bedford. The typhoid death rate was: 1904, 12; '05, 4; '06, 7. In 1907 the order was modified so as to permit the taking of clams and quahaugs for bait. That the shell fish so taken were not all used for bait is the conclusion the City Engineer draws from the record of the typhoid death rate, which was for 1907, 10; for 1908 up to September 1, 11. As a remedy for the conditions, an intercepting sewer discharging in deep water where there is a strong tidal flow was proposed.

#### Squirrels Now Have Bubonic Plague

Tacoma, Wash.—Health Commissioner J. R. Yocom in urging the city to take greater precautions against the possibilities of bubonic plague infection, states that rats have spread the disease among the rodents of Southern California until even the gophers and squirrels far inland have become infected. Unless some decisive action is taken immediately, he says, the entire United States will become overrun with plague-infected animals and but a short time will lapse until the disease has spread to human beings.

### Say Typhoid Is Not Due to Milk

Washington, D. C.—The Milk Dealers' Association are endeavoring to show that the typhoid epidemic in Georgetown is not due to impure milk but to the pollution of Rock Creek and inadequate sewer facilities west of the creek. They have engaged Dr. John D. Hird, formerly Chemist of the District Health Department, to make an investigation.

#### Manicure Shops to Be Sanitary

Washington, D. C.—Following information conveyed to Commissioner H. L. West that serious diseases have been spread from one person to another because of unclean manicure instruments, and suggestions made to him by prominent physicians that these tools should be carefully sterilized and otherwise cared for, the Commissioners have directed the Health Officer to prepare an amendment to the health regulations which will require manicure establishments to maintain strict sanitation. They are to be treated in the same stringent manner as are barber shops. Rules and regulations for the caring of the instruments and the establishment in general will be promulgated shortly.

### WATER SUPPLY

#### Filtered Water for All of Albany

Albany, N. Y.—The work of laying a new water main is in progress, the effect of which will be a supply of filtered water for the whole city. At present there are two systems of water supply for Albany, the gravity system, which consists of several lakes and reservoirs to the west of the city, and the filtering system, consisting of a pumping station, a supply reservoir and eight large filtering beds, located at North Albany on an inlet of the Hudson. The filtered water is all that can be desired. The water supplied by the gravity system, though better than unfiltered river water, is still unsafe from the viewpoint of public health. The gravity or lake system supplies east of Pearl street, south of Clinton avenue. The section between Pearl and Lark streets is supplied by a mixture of two-thirds filtered and one-third lake water. West of Lark street the citizens enjoy filtered water. With the new pumping station, and a number of preliminary filters built and the water pipes laid, there will be a capacity of thirty million gallons per day. The result in public health will, it is believed, be immediately felt. During the four years preceding the installation of the present filtration plant the number of deaths from typhoid fever was 1,956, or an average of 489 per year, while the four years after the installation the number was 346, or an average of 109.

#### Three Times Cost of Water Works Lost by Fire

Baldwin, Kan.—At a special election, the proposition to issue \$85,000 bonds for establishing a city water works plant carried by a vote of 156 to 86. In three years Baldwin has had three disastrous fires, any one of which caused damage enough to pay for a water works system. The last of these was in September, when a fire destroyed the Post Office, the Ledger newspaper office and a number of other buildings in the business section. The agitation for a water works has been pushed since this fire.

#### Sections of Water Tunnel Accurately Joined

Gary, Ind.—The people of Gary will have an abundant supply of lake water about the first of January. The two sections of the water tunnel were recently joined without any appreciable error in alignment. The first section of the tunnel was begun in Jefferson Park and worked north towards the lake front. The second began at the lake front and was worked southward. There still remains 2,000 feet of the tunnel to be excavated from the lake front to the intake in the lake. The total length from the intake to the power house is 14,000 feet. The work is progressing at the rate of 35 feet a day.

**STREET LIGHTING AND ELECTRIC POWER****Atlantic City Gets 50-Cent Gas**

Atlantic City, N. J.—Consumers of gas in Atlantic City are to benefit because of a trade war started by the Atlantic City Gas and Water Company against the Consumers' Gas Company, a new concern, which seeks control of the local gas business. Householders who paid \$1.50 per 1000 feet for gas a few months ago, when the syndicate had complete control, were happy when the new concern cut the rate to 90 cents, and are now overjoyed at the decision announced, under which the "old" concern will furnish gas at the rate of 50 cents per 1000 feet in the effort to run their competitors out of business. The Consumers' concern is expected to make another reduction.

**Higher Gas Pressure Favored**

Chicago, Ill.—An ordinance is in preparation limiting the pressure of gas, the figures probably selected being between 1.5 and 6 in. Prof. McCormack made 68 tests and found the pressure to run up to 4.5 in., about 40 per cent being below 3 in., and that in 44 per cent of the tests the pressure was either too light or too low for efficient combustion. Vice-President Cowdry is reported as saying upon this subject:

The thing that the consumer wants to know is that he will have sufficient pressure. Whether there is too much at the burner depends entirely upon himself. He has the device ready to his hand to check pressure if it is too great in the valve attached to his burner. In years gone by, when coal gas was used, the pressure required was much lower than now. Then came water gas, and the pressure had to be greater. The introduction of mantle burners and new cooking burners called for still more pressure. The ordinance puts the limit at a pressure sufficient to support a water column six inches high. I would not be surprised if the day came when we would have to increase the pressure to 28 inches of water. I don't see how the city can expect us to regulate pressure on the customer's burners. After the gas leaves our service pipes conditions are beyond our control, and there may be many things which would affect the supply.

**Interference with City Wires to Be Stopped**

Columbus, O.—Considerable trouble has been experienced lately with the city wires coming in contact with telephone and telegraph wires on the city's poles. Superintendent Gamper has received copies of laws regulating wires in other cities and will draw up an ordinance. It is proposed to keep other wires off the city poles entirely, or at least to keep them four feet away. Provision for a conduit system may also be made.

**State Law to Put Wires Underground**

Madison, Wis.—A bill providing for an underground system for all wires in Wisconsin will be presented to the next session of the Legislature. Mayor J. C. Schubert, of Madison, has announced that he had agreed to draft such a bill for the progressive committee of the American League of Municipalities. Schubert maintains that the work can be done at a saving to the companies and at a profit to all cities.

**Rates for Electrical Inspection**

San Jose, Cal.—The ordinance creating a department of electricity has been amended by establishing the following fees for inspection:

For each outlet at which current is controlled or used for four lights, or under.....	\$ .05
For each outlet at which current is controlled or used for over four lights.....	.10
For one arc lamp.....	.50
For each additional arc lamp.....	.25
For each motor, one horsepower or less.....	.50
For each motor of more than one horsepower.....	1.00
For each generator, one kilowatt, or less.....	.50
For each generator, more than one kilowatt.....	1.00
Minimum fee.....	1.00

Inspections are to be made upon applications filed with the Secretary of the Board of Fire and Police Commissioners.

**Railroad Cuts Off Town's Light**

Seabright, N. J.—The borough was deprived of electric lighting both for street and household use by the act of officials of the Central Railroad of New Jersey in cutting poles on their right of way which carried the electric lighting wires. The wires belonged to two companies but the poles belonged to the borough. A controversy has been going on for a year or more as to the right of the city and the lighting companies to maintain the line. Mayor Packer will have the railroad officials arrested on the charge of destroying town property and the whole matter will be reviewed in the courts.

**Street Lighting Neglected**

Seattle, Wash.—Complaints are made that the city is neglecting its street lighting for the purpose of supplying current for commercial purposes. Street lights in many districts are not turned on earlier than 9 o'clock, and on a recent night Capitol Hill was not lighted until 10 o'clock. The peak of the load on the city's plant comes between 5 and 9 p. m. During that time all the stores which are being served by the city and the residences are using a maximum of light. However, additional service will soon be provided as improvements at the plant are near completion.

**Will Replace Nernst With Tungsten Lamps**

Tacoma, Wash.—Acting on a communication from City Electrician Felix Lauzon, the fire and water committee has recommended that Council purchase no more Nernst lamps. The principal objection made to these lights is their cost, and it is the intention to gradually replace each Nernst lamp in place with two Tungsten lamps.

**FIRE AND POLICE****Kentucky Fire Loss \$1,107,225**

Frankfort, Ky.—The annual report of Fire Marshal Nierkerk shows that the total value of the property involved in fires was \$6,514,770. The total insurance thereon was \$3,832,557, the property loss was \$1,107,225, and the loss to the insurance companies was \$753,102. There were 1579 fires, of which 1047 were in frame buildings, 508 in brick or stone and 24 in buildings of other material. Of the known causes of fires defective flues wrought the greatest damage, causing 240 fires, while sparks from chimneys, causing 149 fires, came second.

**Conduct of Police and Firemen Regulated**

Green Bay, Wis.—Lounging, loafing or acting the idler on beat, drinking while on duty, taking part in political discussions, gambling, being intoxicated while on or off duty are some of the main points of a set of new laws which may cause a policeman of Green Bay to lose his job. The laws were promulgated by a special committee of the Board of Police and Fire Commissioners and adopted by that body. Rules just as strict were adopted for the government of firemen, and the members of that department must adhere closely to duty, even to refraining from smoking on the street or upon street cars.

**Provide for Police Reserves**

Haverhill, Mass.—An order has been passed in Council accepting the acts of 1902 allowing for a reserve police force made up of five reserve officers for 15 regulars, one for every three regulars above 15 up to 30, and one for every five regulars above 30. As Haverhill has 37 regulars the reserves will be 12 in number. They will receive the same pay as regulars when on duty.

**Portland Re-establishes Fire Limits**

Portland, Me.—Recent fire losses have induced the City Council to re-establish the fire limits of the city. Hereafter it will be illegal for any one to erect a frame building within the territory bounded by India, Fort Montfort, Washington, Munroe, Anderson streets, to Back Bay, and from Forest avenue down State street to the harbor.

### Toledo Gives Service Medals

Toledo, O.—Four fine medals were awarded November 1 at the instance of Mayor Whitlock, to the four members of the Fire and Police Departments considered best entitled to them for bravery or for good service. The medals for policemen and firemen are similar, as are the medals for bravery and for service, excepting that on the bar of each kind is the designation "bravery," or "service." They are of bronze and enamel, with red and white, and blue and white ribbons. Upon them are a laurel wreath, and a Maltese cross with a small picture of Fort Industry in gold with the date "1837," indicative of the incorporation of the city, and the words "Mayor's Medal, Toledo." The Chiefs and Mayor Whitlock made the selections.

### Tax for Fire Volunteers

South Bethlehem, Pa.—At the convention of the South-eastern Volunteer Firemen, Secretary Shoemaker stated that a bill would be presented to the next Legislature proposing to pay a tax of one mill on property to maintain fire companies in boroughs.

## GOVERNMENT AND FINANCE

### Incidental Sources of City Revenue

Buffalo, N. Y.—Robert S. Binkerd, secretary of the Municipal League, has compiled the following figures regarding revenues received by the city from incidental sources. He calls attention to the irregularity of the amounts for the same item in successive years. The item of Mayor's licenses is particularly interesting. By personal attention to detail Mayor Adam has doubled the receipts of his office. The inference sought to be drawn is that if a special officer, an auditor of receipts, were appointed to look after these collections their amounts might be very much increased.

#### AMOUNTS RECEIVED.

Source of income.	1904-05.	1905-06.	1906-07.	1907-08.
Rents from city properties.	\$3,623.58	\$2,998.93	\$1,397.29	\$1,607.29
Rent of Convention Hall...	6,659.44	8,180.72	10,441.38	9,196.52
Market revenues.....	56,652.68	52,259.11	58,305.06	62,742.82
Park revenues.....	1,836.60	1,436.26	1,562.67	1,701.92
Health revenues.....	2,342.65	2,346.76	2,256.05	2,179.25
Pound keeper.....	73.00	39.55	34.30	11.50
Cleaning streets.....	576.57	5,479.27	3,176.24	3,924.42
Removing obstructions....	20,289.92	4,106.49	2,535.35	13,107.90
Removing snow and ice....	24,863.00	3.37	231.45	4,864.32
Refuse utilization plant....	.....	.....	1,723.96	27,937.90
Street and sidewalk permits	.....	9,245.00	10,508.40	11,117.40
Vehicle tax.....	.....	.....	16,418.00	17,760.00
Mayor's licenses.....	30,157.35	46,380.37	56,409.34	62,595.20
Steam boiler licenses, etc..	4,494.00	5,287.00	4,995.00	4,989.00
Plumbers' licenses.....	101.00	90.00	95.00	111.00
Fees, weights and measures	3,962.05	4,695.35	4,495.80	5,068.45
Dog tax.....	10,930.32	*39,914.94	23,418.08	30,678.13

\*Jump due to restoration of amounts held back by former Superintendent of Police over a series of years.

### City Treasurer's Office Let by Contract

Dallas, Tex.—The City Commissioners have awarded the office of City Treasurer to J. Howard Ardrey, cashier of the Gaston National Bank, at the following bid:

1. Paying the city \$160 per annum for the office.
2. Making remittances to New York or other points to meet interest payments or redemption of bonds due by the city without charge for exchange.
3. Paying the city 2½ per cent. per annum on its credit balances, interest to be computed monthly.
4. Charging the city 5 per cent. per annum on all overdrafts, interest to be computed monthly.
5. The payment of all warrants legally drawn by the city, not limiting the amount thereof.
6. Treating each fund as a separate account, computing the interest to be paid or to be allowed on each fund separately.

### Blue Laws to Be Enforced

Omaha, Neb.—In accordance with a recent decision of the Supreme Court upholding the constitutionality of the Sunday closing laws, Mayor Dahlman will order the police to close all cigar stores, drug stores, news stands, confectioneries and all other ordinary places of business on Sundays.

### Two Plans for Meeting Deficiency

Columbus, O.—In order to meet a deficiency in the funds of the Board of Public Safety two schemes are being considered. One of them is to reduce the number of men employed in the different fire departments and the number of regular and special policemen, and the other is to deduct 20 per cent. from the wages of all city employees during the months of November and December.

### Mayor and Councilmen Indicted

Wilkes-Barre, Pa.—Mayor Lewis P. Kniffen and the 32 members of the Select and Common Councils were recently indicted by the Grand Jury on the charge of maintaining a nuisance in that they have failed to have the streets of the city, which have long been in a deplorable condition, properly repaired. The action was started by District Attorney Salsburg and is indorsed by many citizens, who have for months been complaining of the condition of the streets. Some time ago the contract for repairing the asphalt streets was let, but Council, it is alleged, has made no effort to compel the contractors to get to work.

## REFUSE COLLECTION AND DISPOSAL

### Boston's Problem of City Wastes

Boston, Mass.—Boston's garbage and refuse problem is again under discussion, owing to the recent offer of the New England Sanitary Products Company to dispose of the city's garbage for \$600,000 annually instead of the sum of \$750,000, which it now receives. A special committee, consisting of City Engineer Jackson and Professors Sedgwick and Goodnough, are considering the question of disposal of all city waste. They are reported as favorably inclined to the English system of combustion under forced draft of mixed garbage, ashes and refuse.

### Harrison to Stop Refuse Dumping in City Limits

Harrison, N. J.—Street Commissioner Daniel F. Maher has stopped the dumping of market refuse from Newark's city market within the limits of Harrison. The privilege hitherto granted to Newark authorities has been abused. Fish heads, scraps of meat and such stuff have been gathered up when the market is cleaned at night and taken to Harrison under cover of darkness, where it has been dumped at times near sidewalks and caused noxious odors.

### Honor Medals for Street Cleaners

New York, N. Y.—Street sweepers of New York, as well as policemen and firemen, are to receive medals for work well done. For six months the Greenwich branch of the Woman's Municipal League has been carefully checking over the work of the street cleaners in the Greenwich section of the city, and has made this examination a basis for reports to the Street Cleaning Department. The best sweeper, the best driver and the best foreman will receive medals from the league.

### Decarie Crematory Accepted by Norfolk

Norfolk, Va.—Final tests of the crematory built by the Decarie Company of Minneapolis, Minn., have been made and the plant has been formally accepted. The cost was \$29,685.

### San Francisco to Purchase Reduction Plant

San Francisco, Cal.—The citizens' advisory committee in the matter of making arrangements for the destruction of garbage has reported that it would be advisable for the Board of Supervisors to take over the plant of the Sanitary Reduction Company at a price of \$400,000. Originally \$500,000 was asked for the property. The Board of Supervisors offered \$300,000. Later the City Engineer, after an examination, placed the value of the property at \$385,000. The Board of Supervisors has accepted the report, and authorized the City Attorney to make the purchase.

**Hering Plans for Garbage Disposal Adopted**

Milwaukee, Wis.—After more than two years' contention over the disposition of Milwaukee's garbage, Council by a vote of 30 to 2 passed the Kane resolution authorizing the Board of Public Works to advertise for bids for a garbage crematory. At the same time a resolution was passed appointing Hering and Fuller, of New York, as consulting engineers for the new crematory.

**RAPID TRANSIT****Cleveland and Cincinnati United by Trolley**

Bucyrus, O.—A most important event in Ohio interurban railway development took place on the Public Square of Bucyrus when Cincinnati and Cleveland were connected by trolley. The last spike was driven upon the tracks of the Columbus, Marion & Bucyrus Railway with those of the Cleveland, Southwestern & Columbus. Both lines enter the Public Square, one from the south and the other from the west. The connection was made without any of the gold spike brass band features.

**Mayor Tears Up Street Car Rails**

Delhi, O.—Mayor Squibbs carried out his threat to tear up the rails of the Cincinnati, Lawrenceburg & Aurora Traction Company if the management of the company refused to obey the orders of the Mayor and the Council of Delhi to keep the track and roadway in repair and to adjust the poles that carry the feed wires, so as to make them harmonize with the environments of Delhi, generally admitted to be a beautiful village. The Street Commissioner and a number of employees of the village, armed with crow-bars and picks, tore up several lengths of the rails of the traction company, and when the traction company sent men to repair the tracks they were arrested and held in the office of the Mayor.

**Campaign Against Street Railroad Company Planned**

Portland, Ore.—City Attorney Kavanaugh has been instructed by Mayor Lane's Special Franchise Committee to outline a plan of action looking toward the revocation of the various street railway franchises owned and operated in this city by the Portland Railway, Light & Power Company, for failure to comply with the terms of its franchises. It was also decided to administer the probe to the Pacific States Telephone & Telegraph Company to determine what steps could be taken to force this corporation to comply with the terms of its grant. Mr. Kavanaugh was specifically instructed to take into consideration the failure of the Portland Railway, Light & Power Company to build and operate street car lines on portions of streets on which franchises were granted, the abandonment of lines of street railway which have been built, and on which cars were operated for a time, and any other violation of the terms of the various grants. He was requested to outline whether or not a portion or a whole of a franchise could be revoked in each instance of failure on the part of the corporation to comply with the provisions of the grants.

**Would Provide for Municipal Street Railway**

San Francisco, Cal.—The Public Utilities Committee of the Board of Supervisors has voted to refuse the offer of \$2000 a year made by the Sutter Street Railroad Company for a permanent permit to operate electric cars over its tracks on lower Market street. It was also recommended that the Supervisors grant the company a permit to run until November 14, 1929, the date on which the Sutter street franchise will expire. This offer, however, has a condition attached to it which, it is claimed, will prevent the company from accepting it, the condition being the company stipulate that the lower Market street tracks of the company may be used by a municipally-owned and operated road, the evident intention of the committee being to extend the Geary street line to the ferry.

**MISCELLANEOUS****Plans for Boston's Proposed City Hall**

Boston, Mass.—J. Richard Carter, member of the special committee of the Merchants' Association investigating the proposition of taking four acres of the Park Square railroad property for a site for a city hall, finds that sufficient land can be purchased for \$1,500,000. A building suitable for the needs of the city for many years to come could be built for from \$3,500,000 to \$5,000,000. This cost could be easily met by the sale of the present city hall, old court house and adjacent buildings. The city would also save about \$50,000 a year in rentals. The railroad property referred to comprises 16 acres altogether and will be divided into lots and sold. If the city waits until this property is developed, it will have to pay more for the portion of it required.

**To Improve Housing Conditions**

Chicago, Ill.—An investigation of living conditions in the tenement house districts of Chicago will be begun immediately. The inquiry is expected to show such overcrowded, insanitary and dangerous living conditions that the City Council will give the municipal authorities power to compel the remodeling of old tenement buildings. The first announcement of the plan for a general health investigation throughout the city was made on the occasion of the opening of the Chicago School of Civics and Philanthropy, which will be the directing head of the movement. The announcement showed that considerable progress had already been made.

**Chicago Railway Terminals**

Chicago, Ill.—The electrification of all steam railroad terminals in Chicago has been brought much nearer to realization. The city-wide warfare upon the smoke and dirt producing locomotive gained force with the completion of the report to Mayor Busse by the Municipal Committee. This report, the work of months, declares in so many words that the electrification of the railroad terminals in Chicago is practicable and advantageous to all interests, and should be required by the municipal government. Upon the basis of the recommendation made by the committee Mayor Busse will direct his campaign to bring about the electrification of railroad terminals. Before the Legislature he will urge the enactment of a law authorizing municipalities to enforce the electrification, while at home he will continue his efforts to induce the Illinois Central to set the example.

**Municipal Telephone in Oklahoma**

Enid, Okla.—Enid may be the first city in the State to accept the idea of a municipal telephone system as the proper solution of a 'phone rate war that has been on for a year. Several members of the City Council are in favor of the city building an entire new plant and letting the local telephone company take care of itself, as they think their rates are too high. Those who argue against municipal ownership claim that there is no possibility of profit in the business, as shown by the books of the local company, which it has allowed the authorities to inspect.

**Obstructions Removed From Sidewalks**

Omaha, Neb.—In accordance with the terms of an ordinance just become operative, all sidewalks are now being cleared of shoe-shine stands, automatic scales, newsstands and penny slot machines for the sale of candy and gum.

**Municipal Employment Bureau Proposed**

Pittsburg, Pa.—A municipal employment bureau will be the next addition to the city administration if an ordinance which Common Councilman Fred Hering, of the Northside, proposes to introduce, becomes effective. He was prompted to consider the matter by the experience of a fellow-councilman, who, in quest of a job, came within a hairsbreadth of being duped out of \$5 by an illegitimate scheme of a local employment bureau.

## LEGAL NEWS

## Summary and Notes of Recent Decisions—Rulings of Municipal Interest

## MUNICIPAL POWERS—WATER SUPPLY

**State ex rel. Ellis, Atty. Gen., vs. Tampa Waterworks Co.**—Municipalities are subordinate governmental entities, and can exercise only such powers as are legally conferred by express provisions of law, or such as are by fair implication and intentment properly incident to or included in the powers expressly conferred, for the purpose of carrying out and accomplishing the object of the municipality. Powers that are indispensable to the declared objects and purposes of a municipality may be inferred or implied from powers expressly given that are fairly subject to such construction. Authority to make provisions within lawful limitations for securing or furnishing to a city and its inhabitants an abundant supply of good water for all purposes is a usual and necessary power of a municipality, and such power may be included in powers given in general terms, where there is nothing in the enumeration of particular powers conferred to limit in this particular operation of the general powers conferred. When action is taken by a municipality in the exercise of its powers, the methods used will not be controlled by the courts, where there is no abuse of power or discretion. All doubts as to the propriety of means used in the exercise of an undoubted municipal power will be resolved in favor of the municipality. The powers of the city of Tampa in providing water works for the city and its inhabitants are not limited to the establishment of a municipal plant, and the city has authority to confer upon a corporation proper privileges and franchises in the use of the streets of the city to enable the corporation to furnish an adequate supply of good water for all purposes to the city and its inhabitants. An ordinance of a city containing provisions sufficient of themselves to accomplish an expressed lawful purpose, the fact that the ordinance also contains separable illegal or improper provisions will not necessarily render the ordinance void in toto, when the elimination of the illegal portions will not cause results not intended, or affect the integrity of the remaining portions for the purposes expressed. Provisions of law applicable to the subject-matter of contracts are parts of the contracts, whether so expressed or referred to in the contracts or not. The powers conferred upon the city of Tampa by its charter and the general law do not authorize the city to grant an exclusive privilege to use the streets of the city for the purpose of furnishing water to the city and its inhabitants. As the expressed purpose of the Tampa municipal ordinance contract for the furnishing of water to the city and its inhabitants can be accomplished by its valid portions, and the elimination of invalid or improper portions does not injure the city, it cannot be said that it appears the ordinance would not have been passed without the invalid portions, or that an elimination of the invalid portions would cause results not intended by the ordinance.—Supreme Court of Florida.

## SPECIAL ASSESSMENT—INJUNCTION

**Cosgrove et al. vs. City of Chicago et al.**—The collection of a special assessment cannot be enjoined in favor of one who has had an opportunity to make his defense in the court in which the assessment proceedings were had, and his failure to make a defense there affords no ground for an application to a court of equity to relieve him from the consequences of his neglect.—Supreme Court of Illinois.

## PURE WATER—OBLIGATION TO SUPPLY

**Peffer et al. vs. Pennsylvania Water Co.**—Plaintiff filed a bill against a water company, alleging that the water furnished by it was impure and was the cause of typhoid fever, and the evidence showed that the water was polluted, containing bacteria and bacilli. Held, that a decree directing the company to provide a sufficient supply of pure water and to file a statement within the time specified, showing what it proposed to do in order to comply with Act April 29, 1874, Act June 2, 1887, and Act May 16, 1889, regulating public water supply, was properly rendered. A public water supply company is not required to furnish chemically pure water, but it is sufficient if the water be reasonably pure and wholesome. "Ordinarily pure and wholesome water" means water reasonably clean and free from bacteria or other contamination rendering it unfit for domestic use and dangerous to individuals.—Supreme Court of Pennsylvania.

## STREET RAILWAY—PAVING IN TRACKS

**Village of Madison vs. Alton, Granite and St. Louis Traction Co.**—Where the privilege of the use of a public street of a municipality is granted by an ordinance, which is accepted and acted on by the grantee of the privilege in some substantial manner, the ordinance is a valid and binding contract, and is not subject to revocation by the municipality. A village has the power, when adopting an ordinance granting a street railway company the right to occupy a portion of the streets in the operation of a street railway system, to require the company to pave the part of the streets occupied by it at such time and with such material as the officers of the village may require. Municipalities hold their streets in trust for the public use and benefit, and they must control and improve them for such uses, and they cannot grant their exclusive use to private individuals or corporations, nor can they make any contract that will relieve them from the performance of their duties to control and improve the streets for the public use. Under Hurd's Revised Statutes of 1905, providing that every grant to a street railroad of a right to use any street shall be subject to the right of the proper authorities to control the use, improvement and repair of the street to the same extent as if no such grant had been made, etc., a municipality granting to a street railroad the right to construct and operate railroads in designated streets may require the railroad to pave the portion of the streets occupied by it, and may prescribe the material with which the pavement shall be made, or provide that the pavement shall be made at the time, in the manner and with such materials as the village authorities may designate, and an ordinance granting a street railway company the right to construct and operate double tracks on designated streets, and requiring the company to pave with macadam the parts of the streets occupied by its tracks and a foot outside of the rails and between the double tracks, is valid, and, on the company accepting the provisions thereof and acting under it, the ordinance is a contract, and the municipality cannot subsequently require the company to pave such portion with brick.—Supreme Court of Illinois.

## CITY'S LIABILITY FOR INJURY BY SERVANT

**Barree vs. City of Cape Girardeau.**—A municipal corporation is not liable for an injury inflicted by a servant while exercising a corporate franchise conferred on the municipality for the public good, but is liable for injury inflicted by its servant while exercising a power conferred on the municipality for its private benefit. A municipal corporation is liable for a wrongful act committed by its street commissioner while performing his duties in improving a street; the work being a ministerial function, and relating to corporate interests only. Where, in an action against a city for an assault committed by an employee holding the positions of Street Commissioner and police officer, the evidence did not show that the occasion authorized the exercise of the powers of a policeman, an instruction that, if plaintiff was arrested by the employee when he was acting as policeman, there could be no recovery, though plaintiff received permanent injuries, was properly refused, because of the want of evidence on which to predicate it.—St. Louis Court of Appeals of Missouri.

## PUBLIC IMPROVEMENT LIENS

**Lybass vs. Town of Fort Myers.**—All private rights and interests in real property in a municipality are subject to the statutory powers of the municipality to levy assessments for local improvements pursuant to its governmental functions; and the Legislature may by statute create liens upon private property in favor of a municipality for local improvements, and make such liens superior to other liens acquired subsequent to the enactment of the statute. The intention of the lawmaking power to give priority to a municipal lien for local improvements over contract liens of individuals may be implied from the language of the law creating the lien and from the nature and purpose of the lien. A statutory municipal lien upon abutting lots for sidewalk improvements, being in the nature of a governmental tax, has relation to the statute; and such a lien may be superior to a mortgage lien upon the lots, given after the enactment of the law creating the lien, but before the improvements upon the sidewalks were made.—Supreme Court of Florida.

## PUBLIC IMPROVEMENTS—VILLAGES

**Village of Brookfield vs. Pabst et al.**—The act of 1899, entitled "An act to authorize cities of 100,000 population and under to construct outlet sewers," etc., applies only to cities of 100,000 population or over, and does not apply to villages, as the title of the act and its objects and purposes as disclosed by its provisions show it to be an independent act, and not amendatory of the city and village act.—Supreme Court of Illinois.

## MUNICIPAL APPLIANCES

## GUELICH PORTABLE ASPHALT PLANT

THE Guelich Portable Asphalt Plant consists of a revolving dryer and mixer, with necessary appurtenances, designed for use on the street where repairs or new work are to be done. The fact that work can be done more cheaply when the mixture is made on the street has long been known, but appliances enabling the contractor to do a sufficient amount of work daily to satisfy the public with his progress and prevent the plant from becoming a nuisance have been lacking. This is the want which the Guelich plant aims to supply. The following estimates of cost and comparison with other methods of operation are well worth the time of any contractor to examine.

Considering 250 sq. yds. repair work a fair day's labor with any of the most modern plants, with an average haul of two miles, and allowing 1,000 pounds mixture to lay 6 sq. yds., 2-in. surface, comparing this with the yardage that the Guelich Plant B1 can turn out, we arrive at the following results: The B1 plant contains a mixture of a little over 3,000 pounds in the drum, operating, cooking and discharging the drum every fifteen or twenty minutes, we have an output of 3,000 lbs. every twenty minutes, or 18 sq. yds. of repair material, 54 sq. yds. per hour, or 540 sq. yds. per ten-hour day, against 250 sq. yds. of other plants' ten-hour day work, an increase in yardage per day of 190 per cent., say nothing about saving in operating expense, which even shows a greater percentage in saving than the yardage product, and is as follows:

## COMPARISON OF OPERATING EXPENSES

Old Style Plant		The Guelich B1 Plant	
1 Engineer .....	\$3.00	1 Engineer .....	\$3.00
2 Firemen .....	4.00	1 Fireman .....	2.00
1 Plantman .....	2.00	1 Plantman .....	2.00
2 Mixermen .....	4.00	1 Dumper .....	2.00
1 Dumpman .....	2.00	1 Sandwheeler .....	2.00
2 Elevatormen .....	4.00	1 Sandshoveler .....	2.00
2 Sandwheelers .....	4.00	1 Elevatorman .....	2.00
2 Sandshovelers .....	4.00	500 lbs. Coal .....	1.00
1,000 lbs. Coal ....	2.00		
13 Men and Fuel cost.	\$20.00	7 Men and Fuel cost.	\$16.00

## For Stationary, or Any Other Old-Style Plant

Thirteen men, plantmen, produce in output of yardage 250 sq. yds., cost of which in plant operation is \$29, including fuel, or a cost per sq. yd. of .1135 cents for plant labor and fuel.

## Guelich Portable B1 Plant

Seven plantmen, produce in output or yardage 540 sq. yds., cost of which in plant operation is \$16, or a cost per sq. yd. of not quite three cents for plant labor and fuel, or a saving of .0835 cents per sq. yd. in plant operating expenses in favor of the Guelich Portable Plant over that of other plants.

The above showing does not take into account the cost of material, nor cost of spreading and laying, assuming that both may be equal in cost where new material is being used.

However, where the old surface is used, which can only be done by the Guelich Plant, the difference in cost is very marked. In the latter case where any other but the Guelich Plant is used the old surface material must be hauled to a convenient dump as waste, entailing an expense of a haul, whereas by use of the Guelich Plant, which is operated right upon the street where the work is being done, the old material is dumped into the mixing drum of the Guelich Plant, and there cooked and spread upon the street the same as new material, the same being made as good as new or better, the manufacturers claim, through the long mixing and cooking process (true of the new as well as the old). A small percentage of fills should be added to this material; the percentage of what is needed can easily be ascertained by an analysis made of the old stuff in advance of the paving operation.

The saving of using the old material found in the street is first, the haul to a convenient dump, which cost may approximate 5c per sq. yd.; second, the cost of new material, less about 2 per cent. of flux, say 10c per sq. yd., figuring the total cost of new material, sand, carbonate and asphaltic cement, at 40c per sq. yd., there will then remain a saving of 35c per sq. yd. in favor of the use of old stuff.

To summarize, then, the effectual saving by using the Guelich Portable Plant, is:

First, in the use of new material in one as well as the other style of plants, the plant operating expenses are \$.1135 per sq. yd. in the old-style plants, against a cost less than 3 cents per sq. yd. in the Guelich Portable, a saving of \$.0835 per sq. yd.

Second, where old material is being utilized, there is a saving of 35c per sq. yd. Add to that the lesser cost of operating expenses, we find a saving in favor of the Guelich Portable of \$.4335 per sq. yd., or more than 57 per cent. less than pavements laid with any other plant but the Guelich Portable Asphalt Plant. A clear saving of over 35 per cent. over the use of the old-style plants where old material is but a waste and has to be hauled off the street.

## DECARIE INCINERATORS

THE Decarie Incinerator Company now claims to have in operation garbage incinerators in twenty cities of the United States and Canada. In a recently published pamphlet they print copies of letters received this year from nine of these, such letters being in some cases from mayors, in others from Chairmen of the Board of Health or other city officials, all stating that the incinerators in their cities are giving satisfaction. The Commissioner of Health in Minneapolis states that they are now using the steam generated by their incinerators for a 400 electric light installation at the city workhouse. The two incinerators used have been in continuous operation since 1901, practically without any expense for repairs. They incinerate about 50 tons a day in winter and as much as 125 tons in summer, at an average cost of \$0.33 per ton for labor and fuel, without crediting the plant with anything for the light and heat generated.

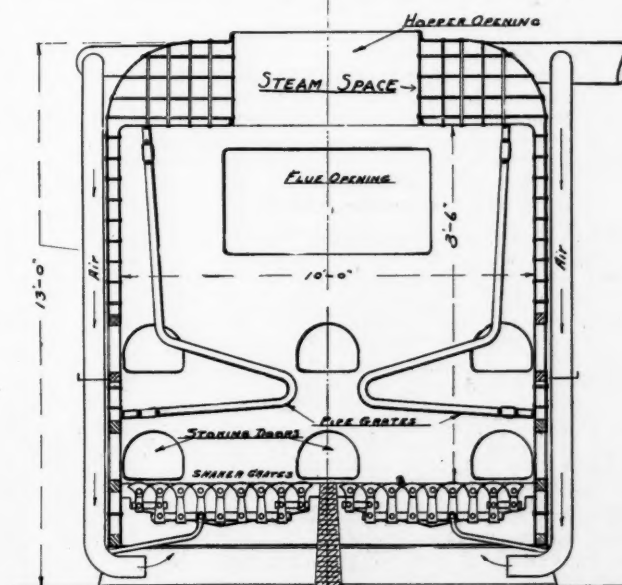
The Chief of the Sanitary Department of Atlanta, Ga., states that their crematory, with a capacity of 200 tons in 24 hours, has not been shut down a day, except Sundays, since its construction more than three years ago. It has required but little repairing, mostly re-bricking of the furnaces. The cost of incinerating does not exceed \$0.16 per ton. This is the third plant operated in the city and they consider this much superior to the others and expect to build another next year.

The Superintendent of the Crematory Department of Spokane, Wash., states that their Decarie incinerator, installed in 1903, has been in constant operation since then with a cost for repairs of practically nothing; while the cost of destruction of garbage, including fuel and labor, does not exceed \$0.30 per ton. The city has recently contracted for two additional furnaces of 40 tons capacity each, the size of the furnace already in use.

Santa Monica, Cal., has had a plant in operation for almost two years which was guaranteed to consume ten tons of garbage in 24 hours, but which has taken care of as high as 17 tons in 16 hours. In Sacramento a Decarie plant was completed about a year ago to take the place of a Meldrum destructor which had been in operation for about two years. This plant was tested satisfactory in December of 1907. No later data concerning this plant were presented in the pamphlet.

The Zanesville, O., incinerator is located adjacent to the city hall and two blocks from the court house, but a letter signed by several city officials states that there has never been any complaint on account of odors or smoke from it. The Burgess and President of Council of Duquesne, Pa., stated on Sept. 2d that their Decarie furnace had been in operation for four months and is giving complete satisfaction. It is perfectly odorless and, although guaranteed for only ten tons per day, has consumed garbage at the rate of 17 tons.

The Decarie incinerator consists of a main incinerating furnace, an exterior furnace and a gas consuming furnace. The cut shows a cross section of the incinerating furnace. This consists of a square firebox enclosed between steel water jacketed walls and a steam space above the crown sheet, all stayed to withstand 100 pounds steam pressure. Pipes which connect the steam space with the water legs form an upper grate, which receives the wet garbage. This, when dried and partially burned, falls to the shaking grates below, which are supported from the I beams on which the furnace rests. Below the grates is an evaporating pan, which is connected with the steam space by pipes.



SECTION OF DECARIE INCINERATOR

## NEWS OF THE SOCIETIES

### League of California Municipalities.

The convention will open Tuesday afternoon, November 17, at Sacramento with an address of welcome by Mayor Clinton L. White. He will be followed by a response by Mayor Hanford, of San Bernardino, the president of the League. An address will also be made by Governor James N. Gillett, and the report of the secretary will be read. A report of the cost of municipal lighting will then be given by representatives of each city in the League. The garbage disposal question will be taken up and the delegates will report on how garbage is handled at their home cities. Mayor White will read a paper on "How Mayors Should Keep Account of Public Officers." A reception to the visitors will be given Tuesday night at the Crocker Art Gallery. On Wednesday the principal discussion will be on the "Adornment of Cities." It will be opened by Mayor Frank Mott, of Oakland. A discussion on municipal ownership will be opened by Mayor Palmer, of Santa Cruz. Thursday will be given over to discussions on proposed legislative measures, and on Friday the visitors will be taken on a trip about Sacramento for the purpose of visiting the various municipal works. A meeting of the City Engineers of the State and of the City Attorneys will be held during the same week, and matters of interest to the engineering and legal departments of the city government will be considered.

### Citizens' Association of Chicago.

The thirty-fourth annual report of the association reviews the work of the year. The efforts of John A. Cooke to escape punishment through powerful political influences after his conviction were defeated. Attention has been called to the need of supplying the State's Attorney with a force of investigators. At present when the Attorney is called upon to investigate alleged protection of gamblers or others by the police he is obliged to depend upon members of the force to conduct an investigation. The association indorsed the legislative bill intended to provide a system of probation for adults convicted of minor offences. Convictions were secured against persons who sold objectionable postal cards. In cooperation with the police, the city has been kept free from policy shop swindles. A bulletin was issued on the advantage of securing power transmission lines from Lockport to Chicago. An appropriation from the County Board was secured to prosecute persons guilty of fraud at a primary election. Some headway was made in an inquiry to determine the number of assistants to be allowed to the various county offices and to introduce good business methods into the offices. A number of reports have been issued in regard to the smoke nuisance. The report is signed by Julius Stern, president, and Shelby M. Singleton, secretary. The office of the association is 33 Merchants' Building, 92 La Salle street.

**Massachusetts Civic League.**—Jacob Riis will be one of the principal speakers at the Massachusetts Civic Conference, to be held November 12, 13 and 14 in Boston, under the auspices of the Massachusetts Civic League. Conference headquarters are to be at the town room, 3 Joy street. Professor Josiah Royce, of Harvard, will deliver a lecture on "Provincialism" at the opening session in Huntington Hall (Massachusetts Institute of Technol-

ogy) at 8 P. M., November 12. Jeffrey R. Brackett will preside. The second session will begin at 10:30 A. M. on November 13, in the town room, on Joy street. The presiding officer will be Harlan P. Kelsey. Edward T. Hartman, secretary of the Massachusetts Civic League, will speak on "The Works and Methods of Village Improvement Societies." Then will follow a round table discussion, at which several examples of civic improvements that have been brought about by improvement societies will be given, as follows: "The Springfield River Front Park," by Nathan D. Bill; "How Haverhill Secured Its New Charter Vote," by Albert L. Bartlett; "How Successful Playgrounds Were Established and Maintained in Salem," by Christian Lantz; "The Templeton Inn: An Improvement Society Enterprise," by P. Blodgett, and "The Work of the Milton Education Society," by John Alden Lee. The afternoon session will be called to order at 2:30 P. M. by Robert A. Woods, and the following addresses will be given: "Educational Substitutes for the Chores of an Earlier Day," by Marshall L. Perrin; "What the Commission on Industrial Education Can Do for Small Towns," by Charles H. Morse; "The Social Value of Agricultural Teaching in the Public Schools," by W. R. Hart. Mayor Hibbard is to preside at the evening session on November 13, in Huntington Hall, at 8 P. M. It is at this meeting that Jacob Riis will deliver an address on "Playgrounds a Civic Need." Following the lecture by Mr. Riis there will be an informal reception, to which all are invited. The closing session of the conference will open on November 14, in Sleeper Hall, Boston University, Boylston street, at 9:30 A. M. An hour will be devoted to a special conference on playground work. At 10:30 A. M., with Joseph Lee in the chair, there will be three addresses on "How the Gang Spirit in Boys May Be Utilized," by Ray S. Hubbard, who will treat it from the standpoint of the club; Frank L. Boyden, on its use by the school, and Parris F. Farwell, on its use by the church.

### Texas Association of Civil Engineers.

The fifth annual convention of the association met at the City Hall, Dallas, October 29, for a two days' session. About 40 members were in attendance. Papers were read on "Grade Raising in Galveston," "Guarantees on Street Paving," "Sewage Disposal," "Street Railway Construction in Dallas" and "Street Paving." Following the business session a visit was made to the cement plant in West Dallas and to the oil refinery of the Texas Company. Early in the afternoon the members visited the Texas State Fair, and on the next day the following plants were inspected: The Barber paving plant, the city water works and the government lock and dam. In the afternoon there was an automobile ride over the city and another visit to the State Fair. The meeting was concluded Saturday night with a banquet at the Oriental Hotel, beginning at 8:30 o'clock. E. Leon Dalton, Dallas, Tex., is president of the association.

### Milwaukee Society of Engineers.

At a meeting of the society, November 11, in the Builders' Club, 456 Broadway, State Forester E. M. Griffith will deliver a lecture, illustrated with lantern slides, on "The Close Relation between the Forest Reserves and the Water Powers of Wisconsin." The lecturer, after discussing the general subject of forestry and reforestation

in their National and State aspects, will treat especially of the influence of forests in the regulation of stream flow, storage reservoirs and water powers of Wisconsin.

### International Congress of Administrative Science.

The first congress will be held in Brussels, Belgium, in 1910, under the auspices of the Belgian Government, which will invite all the other countries. It will be an event of extraordinary importance. The most distinguished specialists of each nation will be there. The Congress will comprise four sections concerning municipal, provincial and departmental administrations, and administrative documents. Reports which will contain the proceedings will be a series upon the best administrative methods of the whole world. Information can be obtained of M. de Vuyst, Inspecteur Principal, and Minister de l'Agriculture, 22 Avenue des Germaines, Brussels.

### Williamsport (Pa.) Municipal League.

As the result of the Municipal Conference held in the Mayor's office at the City Hall, at the invitation of Mayor Wolfe, to form a permanent organization of city officials, for the purpose of more intimate relationship tending to greater efficiency in all departments, the Williamsport Municipal League was established. Everybody will get a hearing in the Municipal League, including the citizens and taxpayers who have views to express, and it will be an organization where municipal matters will be discussed and ideas exchanged for the betterment of all departments of the city government. There were present at the initial meeting: Mayor Wolfe, President Stabler, of Common Council; Controller Kiess, Solicitor Cummings, City Engineer Fisher, John K. Hayes, of the Board of Tax Assessors; City Clerk Galbraith, Mr. Cole, clerk of the Select Council; Chief Stryker, of the Fire Department; Chief Bathurst, of the Police Department, and Street Commissioner Knerr.

## Calendar of Meetings

### November 14.

**Engineering Association of the South.**—Annual Meeting, Chattanooga, Tenn.—S. M. McMurray, Secretary, Carnegie Library, Nashville, Tenn.

### November 18.

**American Society of Civil Engineers.**—Regular semi-monthly meeting, Society House, 220 West Fifty-seventh street, New York City.—Charles Warren Hunt, Secretary.

### November 17-19.

**Atlantic Deeper Waterways Conference.**—Baltimore, Md.—J. Hampton Moore, President, Philadelphia, Pa.

### November 17-20.

**National Municipal League.**—Annual meeting, Pittsburgh, Pa.—Clinton Rogers Woodruff, Secretary, 705 North American Building, Philadelphia, Pa.

**American Civic Association.**—Annual Meeting, Pittsburgh, Pa.—Clinton Rogers Woodruff, Secretary, 705 North American Building, Philadelphia, Pa.

### November 17-20.

**League of California Municipalities.**—Eleventh Annual Convention, Sacramento.—H. A. Mason, Secretary, Mountain View, Cal.

### November 30-December 1.

**American Society of Refrigerating Engineers.**—Annual Meeting, New York City.—W. H. Ross, Secretary, 154 Nassau street, New York City.

### December 1-3.

**Annual Conference of Sanitary Officers.**—Albany, N. Y.—Eugene H. Porter, State Commissioner of Health, Albany, N. Y.

### December 1-4.

**American Society of Mechanical Engineers.**—Annual Meeting, New York City.—Calvin W. Rice, Secretary, 29 West 39th street, New York City.

### December 9-11.

**National Rivers and Harbors Congress.**—Washington, D. C.

### December 15-17.

**American Institute of Architects.**—Annual convention, Washington, D. C.—Glenn Brown, Secretary, The Octagon, Washington, D. C.

## PERSONALS

BARTLETT, JOSIAH, Chief of Police of Amsterdam, N. Y., has been elected High Sheriff of Montgomery County.

BRADY, JOSEPH, New York, N. Y., Assistant Engineer, Public Service Commission, has been elected a member of the American Society of Civil Engineers.

BRIGGS, B. E., City Engineer of Erie, Pa., has been elected a member of the American Society of Civil Engineers.

BURR, SAMUEL D. V., of Plainfield, N. J., a writer on engineering and scientific subjects, died at his home in Plainfield, N. J., last week.

CHASE, WILLIAM B., formerly City Engineer of Portland, Ore., died on October 26 as the result of a stroke of paralysis received at McMinnville, Ore., last February. Since retiring from the position of City Engineer he has carried on a general consulting practice. He was a member of the American Society of Civil Engineers.

CHILDRESS, J. M., Kilmichael, Miss., has been elected Mayor.

DOVE, MISS J. F., High Wycombe, England, has been elected to the Mayoral chair of the Borough of High Wycombe, in Buckinghamshire. She will be the first "Lady Mayor" of the borough, and it is believed the first in England.

DOWLING, H. B., Eufaula, Ala., has been appointed Superintendent of the Eufaula Water Works.

EDDY, H. S., Washington, D. C., Secretary of the District Electric Railway Commission, has gone to Pittsburg to witness test of street car fenders.

EVANS, H. H., of Chicago, Ill., electrical engineer and joint author of the report recently made by municipal officers of Chicago on the electrification of railway terminals in the city, has been appointed Secretary of the Committee on Local Transportation of Chicago.

GALLIVAN, JAMES A., Street Commissioner of Boston, Mass., and Secretary John T. O'Callaghan, of his office, are visiting New York, Philadelphia and Baltimore to study street traffic regulations, and while in New York conferred with William C. Eno, who is regarded as an authority on the subject, and who was largely instrumental in the establishment of the street regulations of the metropolis.

GAMEWELL, JOHN MCD., Superintendent of the Hackensack, N. J., Water Co., died recently.

HARDING, R. S., Superintendent of Public Water, of Poughkeepsie, N. Y., has been elected a member of the American Society of Civil Engineers.

HARPER, A. C., Mayor of Los Angeles, Cal., has filed ten suits for libel against City Prosecutor Woolwine and Edward T. Earle, editor of the Evening Express. The suit is the outgrowth of charges against the Mayor and Police Commissioners of protecting vice.

HAYFORD, JOHN F., Inspector of Geodetic Work and Chief of the Computing Division of the United States Coast and Geodetic Survey, Washington, D. C., has been selected Dean of the Engineering School which will be opened by Northwestern University, Evanston, Ill., next September.

HIBBARD, GEORGE A., Mayor of Boston, Mass., recently celebrated the forty-fourth anniversary of his birth and the twenty-second of his marriage, both events occurring on the same day.

JANSSEN, JOHN T., Chief of Police of Milwaukee, Wis., recently celebrated his twentieth anniversary as head of the guardians of the law, and was honored by the passage of a resolution of congratulation by the City Council in which his efficiency was highly praised.

JOYNER, W. R., Mayor of Atlanta, Ga., has sold his interest in the Atlanta Baseball Association and resigned as director of the club.

KUEHN, JULIUS, Mayor of Kaukana, Wis., died suddenly October 25.

MILLER, A. L., Chief of Police of Fairbanks, Alaska, was shot and killed when attempting to arrest a woman on a charge of insanity.

O'HEARN, J. L., City Engineer, Choctaw, Okla., has been elected a member of the American Society of Civil Engineers.

REED, CHARLES, Paducah, Ky., formerly Mayor, died October 9.

RICE, W. L., Bristol, Tenn., recently visited Lynchburg Va., to attend a reunion of a class of forty members which he taught fifty-eight years ago. Only one member of the class, W. B. Henley, who is ten years younger than Prof. Rice, remains.

RICKARDS, DR. BURT R., Director of the Bacteriological Laboratory of the Health Department of Boston, Mass., has resigned to take charge of the Bacteriological Laboratory of the Ohio State Board of Health at Columbus.

RITCHIE, CAPT. ROBERT A., of the Fire Department of Boston, Mass., has been given charge of the protection of the whole water front. He has had charge of the fireboat engine 44.

STEWART, JOHN, Pittsburg, Pa., Manager and Engineer, Western division of the Cranford Paving Company, has been elected a member of the American Society of Civil Engineers.

TAYLOR, HENRY W., Albany, N. Y., Assistant Sanitary Engineer for the New York State Department of Health, has been transferred to the position of Sanitary Engineer in the office of the New York State Architect.

TRAMMEL, J. D., has been appointed City Engineer of Fort Worth, Tex., succeeding E. C. Woodward, resigned.

WILLIAMS, FRANK M., Albany, N. Y., was elected State Engineer and Surveyor of New York.

WOOD, JAMES M., Inspector of Street Cleaning, Washington, D. C., has been promoted to be Superintendent of the Department, succeeding John T. Twohey, who resigned two months ago.

Mayors elected in New Jersey Nov. 3 were as follows—those marked \* having been reelected:

Avalon—Gilbert S. Smith.  
Atlantic City—\*Franklin P. Stoy.  
Belvidere—Thomas Hayes.  
Bloomfield—William P. Sutphen.  
Boonton—Cornelius J. Kopp.  
Caldwell—J. Henry Harrison.  
Cape May—George H. Reeves.  
East Orange—\*William Cardwell.  
Elizabeth—Dr. Victor Mravlag.  
Freehold—Alexander L. Moreau.  
Gloucester City—\*Robert A. Lincoln.  
Harrison—Joseph P. Riordan.  
Hackettstown—William J. Barker.  
Haddonfield—J. Morris Roberts.  
Highlands—Allan R. Reed.  
Holly Beach—\*Frank E. Smith.  
Hightstown—\*R. D. Norton.  
Irvington—\*William L. Glorieux.  
Long Branch—\*Charles O. McFaddin.  
Monmouth Beach—Garret H. White.  
Montclair—\*Henry V. Crawford.  
Morristown—Thomas W. Cauldwell.  
Newark—\*Jacob Haussling.  
North Caldwell—Ralph Bach.  
North Wildwood (Anglesea)—\*Augustus Hilton.  
Nutley—John P. Lux.  
Orange—Arthur B. Seymour.  
Phillipsburg—\*Joseph H. Firth.  
Plainfield—\*Charles J. Fisk.  
Red Bank—Louis Y. Mannina.  
Roseland—George E. DeCamp.  
Roselle Park—Louis V. Ebert.  
South Cape May—Frank S. Rutchman.  
Vineland—\*Waldo F. Sawyer.  
Westfield—\*Augustus L. Alpers.  
West Long Branch—Monroe V. Poole.  
West Orange—Walter A. Flint, Jr.  
West Caldwell—Caleb R. Harrison.  
Wildwood—\*Latimer Baker.  
Woodbury—\*Samuel H. Ladd.

## PATENT CLAIMS

901,461. Derrick. John McMyler, Cleveland, O., assignor to the McMyler Manufacturing Company, Cleveland, O., a Corporation of Ohio. Serial No. 235,456.

The combination of a derrick frame, a sliding boom mounted thereon, ropes attached to said boom and passing over sheaves on the derrick frame, means for taking in and paying out said ropes, sheaves adapted to receive load-supporting ropes at the end of the boom, guiding sheaves for said load-supporting ropes mounted intermediate the ends of the boom, and sheaves on the derrick frame adapted to receive the load-supporting ropes, said last mentioned sheaves being positioned so as to be nearer the outer end of the boom than the aforementioned sheaves which are mounted on the boom between the ends thereof and load-supporting ropes attached to a drum and passing over the sheaves on the derrick frame above mentioned as adapted to receive the same, and reeved about the said sheaves on the boom intermediate the ends thereof, and over and depending from the sheaves at the outer end of the boom, whereby the weight of a load may assist in moving the boom forward.

901,529. Arc-Lamp. Richard Fleming and Cromwell A. B. Halvorson, Jr., Lynn, Mass., assignors to General Electric Company, a Corporation of New York. Serial No. 208,125.

In an arc lamp, a positive electrode formed in two parts, and means for causing a somewhat violent engagement between the parts at intervals in the operation of the lamp.

901,536. Artificial-Stone Sewer-Cap. Edward F. Kennelly, Boston, Mass. Serial No. 414,590.

As a new article of manufacture, an artificial stone sewer cap having a central man-hole opening therethrough, provided with a circular cut out portion extending around its upper edge to receive a suitable cover, spaced concentric, circular metallic reinforcing bands partially embedded within the material of said sewer cap, and adapted to receive said material therebetween, to form the upper circular edges of said man-hole opening and said cut out portion, and provided with a plurality of aligned openings, and anchoring bolts extending through said openings and having their inner ends provided with nuts embedded within the material of said sewer cap, substantially as described.

901,569. Corrugated-Metal Culvert. Clifford D. Voris, Crawfordsville, Ind. Serial No. 419,774.

A culvert comprising a hollow section having its adjacent longitudinal edges overlapped, and co-acting fastening devices independent of and secured to the overlapped portions of said section and bearing against the adjacent longitudinal edges thereof for limiting the expansible and contractile movement of said sections.

901,702. Culvert. Charles E. Glasspoole, St. Paul, Minn. Serial No. 410,560.

A device of the class set forth, comprising a pipe having longitudinal upper and lower parts, said upper part having transverse corrugations and said lower part having an inner smooth surface, said parts being joined together along their sides, for the purposes specified.

901,733. Emergency-Cistern for Fire-Engines. Edward O'Sullivan, San Francisco, Cal. Serial No. 343,802.

In a cistern, the combination with the water reservoir, a top for closing the said reservoir, a coupling chamber above the top, a cover for closing the said coupling chamber, a suction pipe, a branch pipe leading from the coupling chamber to a point below the water in the reservoir, means for connecting the suction pipe with an engine hose or the like, and a foldable pump connected to the branch pipe arranged to be folded down when the said cover is closed, substantially as set forth.

901,806. Combined Road-Grader, Drag, and Harrow. Hamilton D. Guffey, Unionville, Mo. Serial No. 421,410.

A combined road grader, drag and harrow, comprising transversely disposed blades, a landside removably attached between the ends of the blades at one side of the grader, and means whereby the position of the grader may be changed to throw the dirt to either one side or the other.

901,859. Catch-Basin and Trap. John R. Williams, Milwaukee, Wis. Serial No. 434,883.

A device of the character described comprising an upright casing, a trap arranged eccentrically within and projecting below the casing, a transverse partition provided with a central upright tabular extension formed in the trap, a waste pipe extending into the trap below said partition and an outwardly opening check valve arranged in the waste pipe.

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage  
Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation,  
Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

## BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>STREET IMPROVEMENTS</b>				
Alabama.....	Anniston.....	Nov. 12.....	Constructing several thousand yards cement walks.....	E. P. Cooper, Mayor.
New York.....	New York.....	Nov. 12, 3 p.m.....	Asphalt tile paving, ends of parks, etc.....	Henry Smith, Pres. Park Board.
Ohio.....	Cleveland.....	Nov. 13.....	Furn. material and building culvert.....	A. B. Lea, County Surveyor.
Missouri.....	St. Louis.....	Nov. 13, noon.....	Brick block paving alleys; cost, \$72,000.....	A. J. O'Reilly, Pres. Bd. Pub. Imp.
New York.....	Albany.....	Nov. 13, noon.....	Constructing large number of State roads.....	Fred Skene, State Engineer.
Indiana.....	Valparaiso.....	Nov. 13, 8 p.m.....	Improving various streets.....	Chas. D. Jones, City Clerk.
Indiana.....	Covington.....	Nov. 14.....	Bldg. gravel roads Nos. 1 and 2, separate, Van Buren twp.....	Wm. B. Gray, County Aud.
Ohio.....	Toledo.....	Nov. 14, noon.....	Repaving Collingwood Ave. with asphalt.....	Reynold Voit, Sec'y Bd. Pub. Serv.
Indiana.....	Bloomfield.....	Nov. 14.....	Constructing gravel road in Richland township.....	Peter Cook, County Aud.
Ohio.....	Cleveland.....	Nov. 14, 11 a.m.....	Improving Mayfield road, Euclid township.....	W. F. Black, County Clerk.
New York.....	Ithaca.....	Nov. 15.....	Laying 5,800 ft. 4 and 5 ft. cement walks; 4,720 ft. curb and gut.....	Newman & Stagg, Savings Bank Bld.
Oklahoma.....	Muskogee.....	Nov. 16, 5 p.m.....	Asphalt paving on 5-in. conc., etc., 300,000 sq. yds., 17 Dists.....	Morgan Caraway, City Clerk.
New York.....	Brooklyn.....	Nov. 17.....	Asphalt paving, 27,950 sq. yds., cement walks, 44,240 sq. ft., etc.....	Bird S. Coler, Boro. President.
Louisiana.....	Opelousas.....	Nov. 18, 4 p.m.....	Constructing 34,870 sq. ft. cement sidewalks.....	M. Halphen, Mayor.
New York.....	Brooklyn.....	Nov. 18, 11 a.m.....	Asphalt paving on concrete, laying sidewalks, etc.....	Bird S. Coler, Boro. President.
South Carolina.....	Orangeburg.....	Nov. 18.....	Paving, 8,700 sq. yds.; drains, 1,800 ft., 10-20-in. pipe, etc.....	J. W. H. Dukes, Mayor.
Pennsylvania.....	York.....	Nov. 20.....	Bldg. 5,070 ft. State road, Dillsburg Boro., York Co.....	Jos. W. Hunter, St. Hwy. Dept., Harrisburg.
Pennsylvania.....	Clearfield.....	Nov. 20.....	Bldg. 6,370 ft. State road in Pike twp., Clearfield Co.....	State Hwy. Dept., Harrisburg.
Indiana.....	Indianapolis.....	Nov. 20.....	Asphalt, brick and bitulithic paving, etc., several streets.....	Blaine Miller, City Eng'r.
Indiana.....	Wabash.....	Nov. 20, 10 a.m.....	Constructing gravel road.....	J. P. Nofztger, County Aud.
Ohio.....	Bowling Green.....	Nov. 20.....	Improving Lehman Ave. from Main St. to railroad.....	Alex. Williamson, City Clerk.
Ohio.....	Cincinnati.....	Nov. 20, noon.....	Bldg. embankments, New Rich. pike; also repairing Cleaves rd.; also Foley road in Delhi township.....	Fred. Dreih, County Clerk.
Virginia.....	Roanoke.....	Nov. 21.....	Paving with Hassam or concrete portion Franklin road.....	W. B. Bates, City Engineer.
Ohio.....	East Liverpool.....	Nov. 23, noon.....	Brick paving curb, etc., Penn. Ave and Sheridan St.....	A. S. Hughes, Clerk Bd. Pub. Serv.
Ohio.....	Newark.....	Nov. 23.....	Grading, macadamizing, draining, 1,000 ft. road, Lima twp.....	County Commissioners.
Ohio.....	Cincinnati.....	Nov. 27, noon.....	Repairing Springfield pike; also avenue from Montgomery to Remington; also treating Ohio pike with Tarvia.....	Stanley Struble, Pres. County Com'rs.
Ohio.....	Columbus.....	Nov. 27, noon.....	Furn. and rolling 2,400 tons crushed limestone on W. 5th Ave.....	John T. Scott, Clk. Co. Com'rs.
Ecuador.....	Guayaquil.....	Dec. 1.....	Paving and sewer work.....	Sewerage and Water Board.
<b>WATER SUPPLY</b>				
North Dakota.....	Fargo.....	Nov. 12, 5 p.m.....	Furn. material and laying 6-in. main in 8th St., north.....	N. C. Morgan, City Auditor.
California.....	San Diego.....	Nov. 12, 10 a.m.....	Constructing reservoir; estimated cost, \$121,000.....	F. H. Dixon, Clk. Bd. Pub. Wks.
Wisconsin.....	Milwaukee.....	Nov. 12, 10:30 a.m.....	Furn. 4,000 tons 36-in. Class C, c. i. pipe and 75 tons specials.....	C. J. Poetsch, Chm. Bd. Pub. Wks.
Alabama.....	Gadsden.....	Nov. 12, noon.....	Water works, extensions and improvements for city.....	Hazlehurst and Anderson, Eng'rs.
Ohio.....	Toledo.....	Nov. 12, noon.....	Cont. 11; bldg. pumping station, coal storage and pump well; labor and material bids separate.....	Reynold Voit, Sec'y Bd. Pub. Serv.
Iowa.....	Fort Dodge.....	Nov. 12, 2 p.m.....	Constructing 2,500-gal. steel tank on 75-ft. tower.....	Oakland Cementing Asso.
Vermont.....	Wallingford.....	Nov. 14.....	Mat. and labor for ww., inc. excav., embank., pipe specials, masonry, etc., for pipe line, 2 miles long, 4 to 10-in.; also 30,000-gal. covered reservoir, intakes, etc.....	A. C. Grover, Rutland, Eng'r.
Indiana.....	Nat'l Sold. Home.....	Nov. 14.....	Installing water softening and purifying plant, Sold. Home.....	J. W. Sanderson, Treas. Sold. Home.
Colorado.....	Lamar.....	Nov. 16, 8 p.m.....	Bldg. sec' of ww., inc. 3,200 ft. 12-in. pipe, bldg. dry rubble subterranean col. gallery of small cross section, etc.....	Charles Maxwell, Mayor.
Minnesota.....	New Ulm.....	Nov. 16, 5 p.m.....	Furn. 5,200 ft. pipe, gates and valves, hydrants, etc.....	Ernst Wicherski, City Clerk.
Iowa.....	Spirit Lake.....	Nov. 17, 8 p.m.....	Bldg. \$20,000 complete ww. system, inc. 75,000 gal. steel tank.....	O. Claussen, St. Paul, Minn., C. E.
New York.....	New York.....	Nov. 17, 11 a.m.....	Making borings along one or more lines south of Hill View reservoir in Bronx, Manhattan and Brooklyn.....	J. Waldo Smith, Ch. Eng'r Bd. W.S.
California.....	San Francisco.....	Nov. 18.....	Pumping stations, pumps, turbines, etc., for salt water pumping stations; cost, \$257,000.....	Marsden Manson, City Engineer.
Michigan.....	Grand Rapids.....	Nov. 19, 8 p.m.....	Bldg. and erecting 12,000,000-gal. vert. trip. exp. pump engine.....	S. A. Freshney, Bd. Pub. Wks.
Texas.....	Ft. McIntosh.....	Nov. 20, 10 a.m.....	Furn. and install. new boiler, purif. apparatus, etc.....	Col. John L. Clem, U. S. A., San Ant.
Florida.....	Pensacola.....	Nov. 21, 11 a.m.....	Installing water mains, pump, mach., etc., at navy yard.....	Commandant, Navy Yard.
Colorado.....	Las Animas.....	Nov. 23, 2 p.m.....	Complete new pump plant, inc. bldg. and equip. steel tank or stand-pipe; 23,000 ft. c. i. pipe extensions.....	W. R. Murphy, Town Engineer.
Pennsylvania.....	Pittsburg.....	Nov. 23, noon.....	Furn. and install. equip. in extension of filtration works.....	A. B. Shepherd, Act. Dir. Pub. Wks.
Delaware.....	Wilmington.....	Nov. 23, 10:30 a.m.....	Constructing covered slow sand filtration plant, with filter, water reservoir, sand washing apparatus, etc.....	John A. Kienle, Ch. Eng. Water Bd.
Mississippi.....	Meridian.....	Nov. 24, 6 p.m.....	Furn. and erect. 5,000,000-gal. hori. cross compound crank and flywheel pump engine; also bldg. rein. concrete reservoir.....	C. C. Dunn, Pres. W. W. Com.
Washington.....	Wenatchee.....	Nov. 24, noon.....	Bldg. pumping station and pipe tunnel; furn. pump, motor and starting panel; reservoir complete, etc.....	Roy Zahren, City Engineer.
Brazil.....	Parahyba.....	Nov. 24.....	Bldg. water supply system, etc., for city.....	Govt. State of Parahyba.
Georgia.....	Augusta.....	Nov. 24, 4 p.m.....	Furnishing and erecting pumping engine of 6,000,000-gal. daily capacity and steam plant of 450 h.p.....	Nisbet Wingfield, City Eng.
Illinois.....	Pekin.....	Nov. 24.....	Water tube boilers, comp. condensing steam engines and cent. pumps for plant on Ill. Riv., 17 miles south.....	Harmon Eng. Co., Peoria.
Pennsylvania.....	Reading.....	Nov. 24, 7:30 p.m.....	Bldg. 8,000 ft. 60-in. rein. concrete conduit, etc., for Maiden Crk. filters.....	Edward Elbert, Pres. Water Com'rs.
California.....	San Francisco.....	Nov. 25, 3 p.m.....	Two salt water pumping stations.....	Board of Public Works.
California.....	Los Angeles.....	Nov. 30, 11 a.m.....	Constructing 11 miles open and lined ditch work of Antelope Sec., Los Angeles aqueduct, inc. 58,625 ft. canal lining, with cover and back fill; 283,140 cu. yds. excavating; 446 cu. yds. plain concrete in culverts; 100 cu. yds. rubber concrete; lining 280 lin. ft. of tunnel, now excavated.....	Board of Public Works.
Florida.....	Daytona.....	Jan. 1.....	Constructing water works for city.....	D. D. & C. M. Rogers, Engineers.
<b>SEWERAGE</b>				
Indiana.....	Fort Wayne.....	Nov. 12, 7:30 p.m.....	Constructing vit. clay pipe sewers.....	Edw. J. Lennon, Chm. Bd. Pub. Wks.
Illinois.....	Marshall.....	Nov. 12.....	Laying 2 miles rein. concrete and vit. pipe sewers.....	Paige & Stock, Eng'rs, Terre Haute.
Ohio.....	Cleveland.....	Nov. 12, noon.....	Bldg. 460 ft. sewer E. 12th St.; retain. wall.....	W. J. Springborn, Pres. B. P. S.
North Dakota.....	Fargo.....	Nov. 12, 5 p.m.....	Constructing 12-in. lateral sewers in several streets.....	H. C. Morgan, City Auditor.
Ohio.....	Cleveland.....	Nov. 13.....	Furn. mat. and building culvert in ravine at E. 90th St.....	A. R. Callow, Sec'y Bd. Pub. Serv.
Washington.....	Seattle.....	Nov. 14.....	Bldg. middle sec. north trunk sewer; exten. of date.....	R. H. Thomson, City Engineer.
Texas.....	Barstow.....	Nov. 14, 9 a.m.....	Constructing drainage system.....	J. J. Walker, Sec'y Drainage Com'rs.
New York.....	Ithaca.....	Nov. 15.....	Constructing 3,000 ft. 6-in. sewer for Bryant Park Co.....	Newman & Stagg, Sav. Bank Bldg.
Ohio.....	Hartwell.....	Nov. 16, noon.....	Labor and material, for building sewers and disposal plant.....	Riggs & Sherman Co., Eng'rs, Toledo.
Dist. of Col'bia.....	Washington.....	Nov. 16, noon.....	Bldg. Sec. D east side intercepting sewer, Brookland to boundary; also service sewers in Conduit road.....	Jay J. Morrow, Eng'r Commissioner.

Iowa.....	Fort Dodge.....	Nov. 16, 5 p.m.....	Bldg. 8-in. sanitary sewers, 6 sts.; 10-in. vit. storm, 1 street.....	King E. Beal, City Clerk.
Alabama.....	Tuskogee.....	Nov. 16.....	Bldg. 3,755 ft. 8-in. and 1,529 ft. 6-in. sewer, etc.....	O. S. Lewis, Mayor.
Illinois.....	Stonington.....	Nov. 16.....	Furn. laying, etc., 54,025 ft. 7 to 28-in. vit. tile pipe.....	Tony W. Hooper, Town Clerk.
Pennsylvania.....	Derry.....	Nov. 16.....	Constructing 37,570 ft. of sewers.....	J. N. Nicholson, Boro. Clerk.
New York.....	Rye.....	Nov. 18, 8 p.m.....	Bldg. sanitary sewers and disposal plant, inc. 90,000 ft. 8 to 18-in. vit. pipe sewers, etc., laid complete, much rock exc.; 12,600 ft. iron pipe sewers, siphons and force main, 4 to 16-in.; 1,200 ft. sub-aqueous iron effluent outlet into L. I. Sound; 2 small pumping stations complete; sewage tanks and coke filter bids; agricultural tile, piling, earthwork, etc.....	G. Everett Hill, N. Y. City, Eng'r.
New York.....	Brooklyn.....	Nov. 18.....	Bldg. 36-in. brick sewer, 73d St.; 24, 15 and 12-in. pipe, other sts.	Bird S. Coler, Boro. President.
Ohio.....	Dayton.....	Nov. 20, noon.....	Bldg. 3,800 ft. 8-in. vit. pipe, 6 to 10 ft. cut, manholes, etc.....	J. C. Ely, Pres. Bd. Pub. Serv.
Virginia.....	Roanoke.....	Nov. 21, noon.....	Constructing two sewers.....	W. B. Bates, City Engineer.
New Jersey.....	East Rutherford.....	Nov. 23, 8 p.m.....	Completing sewer system and disposal plant; abandoned cont.....	Wise & Watson, Boro. Eng'rs.
Dist. of Col'bia.....	Washington.....	Nov. 23.....	Furnishing vit. sewer pipe, etc. for Ist. Canal Com.....	Capt. F. C. Boggs, Gen. Purch. Agt.
Brazil.....	Parahyba.....	Nov. 24.....	Bldg. drainage system, etc., for city.....	Govt. State of Parahyba.
Iowa.....	Fort Dodge.....	Nov. 26, 5 p.m.....	Bldg. 7 blocks, 8-in. sanitary, 1 block 10-in. storm sewer.....	C. H. Reynolds, City Engineer.
Michigan.....	Grand Rapids.....	Nov. 27, 8 p.m.....	Sewage pump mach., inc. four 40-in.; four 24-in., two 18-in. centrifugal pumps; four 175-h.p., two 75-h.p., two 60-h.p. and three 30 h.p., elec. motors; vacuum pumps, motors, etc.....	Geo. C. Pierce, Pres. Bd. Pub. Wks.
Ecuador.....	Guayaquil.....	Dec. 1.....	Constructing sewerage system.....	Int. Bur. of Am. Rep., Wash'n, D.C.

## BRIDGES

Pennsylvania.....	Huntingdon.....	Nov. 12.....	Bldg. iron bridge over Big Trough Creek, Penn township.....	H. D. Taylor, Chm. Co. Com'rs.
Iowa.....	Charles City.....	Nov. 12, 10 a.m.....	Plans and bldg. steel concrete bridge, 262 x 73 ft.....	J. G. Cutler, Chm. Co. Com'rs.
Ohio.....	Madisonville.....	Nov. 13.....	Constructing concrete bridge on Main St.....	Fred. Dreihls, Co. Clk., Cincinnati.
Ohio.....	Toledo.....	Nov. 14, 10 a.m.....	Bldg. bridge and abut. over Swan Creek; also sub. of bridge.....	L. B. Bailey, Chm. Co. Com'rs.
Michigan.....	Whitefish Point.....	Nov. 15.....	Bldg. bridge over Tahquemanon River.....	Frank House, Highway Com'r.
Indiana.....	Elkhart.....	Nov. 16, 9:30 a.m.....	Repairs to Co. line bridge No. 39, inc. piers and abut.....	D. O. Batchelor, County Aud.
California.....	Oakland.....	Nov. 16, 10 a.m.....	Replanking trestle bridge, Centerville road.....	John P. Cook, County Clerk.
Arkansas.....	Marianna.....	Nov. 18, 2 p.m.....	Bldg. steel hwy. bridge, 450 ft. long, over L'Anguille River.....	County Court Clerk.
North Carolina.....	Beaufort.....	Nov. 20, noon.....	Bldg. steel draw-span bridge, pile and concrete foundation.....	Capt. E. I. Brown, Eng. Corps, U.S.A.
Florida.....	Pensacola.....	Nov. 21, noon.....	Bldg. wooden bridge over Little Bayou.....	A. M. McMillan, Clk. Co. Com'rs.
Oklahoma.....	Pawnee.....	Nov. 23.....	Constructing bridge for County.....	John W. Griesel, Engineer.
Florida.....	Pensacola.....	Nov. 24.....	Bldg. Bayou Chico bridge for County.....	County Commissioners.
Virginia.....	Hanover.....	Nov. 25.....	Bldg. steel and rein. concrete bridge over Chickahominy River.....	Thos. R. Puller, Chm. Joint Com.
Mississippi.....	Grenada.....	Dec. 7.....	Bldg. iron bridge over Bogue Creek at Tie Plant.....	County Commissioners.
Nebraska.....	Fairbury.....	Jan. 1.....	Yearly bridge contract for Jefferson County.....	F. A. Houston, County Clerk.
Indiana.....	Rensselaer.....	Jan. 12.....	Constructing bridge over Kanku River.....	J. H. Leatherman, County Aud.

## LIGHTING AND ELECTRICITY

Missouri.....	Elsberry.....	Nov. 12.....	Furn. mat. and bldg. \$10,000 elec. light plant for city.....	W. A. Fuller, Chm. Bldg. St. L., Eng.
Ohio.....	Cleveland.....	Nov. 13, noon.....	Lighting, ext. and keeping in repair elec. arc. lamps for 1909.....	A. R. Callow, Sec'y Bd. Pub. Serv.
Pennsylvania.....	Philadelphia.....	Nov. 17, noon.....	Lighting incan. naphtha lamps and furn. posts for 1909.....	Geo. R. Stearns, Dir., Pub. Wks.
New York.....	Plattsburg.....	Nov. 18.....	Bldg. transformer station and install. elec. light system; also furn. elec. energy for operation.....	Constr. Q. M., Barracks.
Ohio.....	Springfield.....	Nov. 21.....	Bldg. new power plant at hospital.....	F. C. Boggs, Gen. Pur. Agt., Ist. C.C.
Dist. of Col'bia.....	Washington.....	Nov. 23, 10:30 a.m.....	Electrical supplies, etc., for Ist. Canal Com'n.....	Govt. State of Parahyba.
Brazil.....	Parahyba.....	Nov. 24.....	Bldg. lighting system, etc., for city.....	Dept. Justice, Washington, D. C.
Georgia.....	Atlanta.....	Nov. 30, 10 a.m.....	Furn., etc., 25-h.p. electric motor, etc., for U. S. Penitentiary.....	L. J. Fleming, Constr. Q. M.
Texas.....	Pt. Sam Houston.....	Dec. 2.....	Extending elec. line and additional street lights.....	Jas. P. Berry, Sec'y Bd. C. & S.
Connecticut.....	Hartford.....	Jan. 4, 11 a.m.....	Lighting streets for 1 or 5 years from June 1, 1907.....	

## MISCELLANEOUS

Nebraska.....	Beatrice.....	Nov. 12, noon.....	Bldg. hdqrs. for Beatrice Volunteer Fire Dept.....	R. W. Grant, Architect.
North Dakota.....	Fargo.....	Nov. 12.....	Furn. 1,000 ft. 2 1/2-in. cotton fire hose, 400 ft. 2 1/2-in. fire hose.....	N. C. Morgan, City Auditor.
Indiana.....	Evansville.....	Nov. 14.....	Sweep and clean brick, asphalt and block streets during 1909.....	W. F. Wunderlick, City Clerk.
New York.....	Syracuse.....	Nov. 16, 1:30 p.m.....	Furnishing 2,500 ft. of fire hose.....	F. T. Pierson, Sec'y Bd. C. & S.
Ohio.....	Columbus.....	Nov. 16, noon.....	Reduction machinery for disp. of garbage, etc., Cont. 3.....	I. S. Osborn, Eng. Reduction Plant.
Arkansas.....	Paragould.....	Nov. 17, 11 a.m.....	Constructing ditch to straighten Creek, 9 miles.....	Lund & Hill, Little Rock, Eng'rs.
New York.....	Albany.....	Nov. 17.....	Additional barge canal work; estimate, \$6,877,337.....	F. C. Stevens, State Supt. Pub. Wks.
Ontario.....	Ottawa.....	Nov. 20.....	Bldg. wharf at Partridge Island; ext. wharf, Harvey Bank.....	Nap. Tessler, Sec'y Dept. Pub. Wks.
Pennsylvania.....	Erie.....	Nov. 21.....	Bldg. superstructure on public dock extension.....	Dock Commissioner.
California.....	San Francisco.....	Nov. 25, 3 p.m.....	Multi-stage turbine pumps and hori. turbines for 2 fire boats.....	Board of Public Works.
New York.....	Newark.....	Nov. 26.....	Erecting \$25,000 brick village hall; J. M. Pratt, Arch.....	Village Board of Trustees.
California.....	Los Angeles.....	Nov. 26.....	Furnishing a quantity of lumber.....	Board of Public Works.
Ohio.....	Tiffin.....	Dec. 1.....	Work on Silver Creek, principally rock excav.; cost, \$15,000.....	County Commissioners.

## STREET IMPROVEMENTS

**Montgomery, Ala.**—The County Engineer has been instructed to prepare plans, etc., for grading and graveling Matthews' Slough, a section of impassable road one mile long beyond Sledges on the Union Springs road; petitions for completing four miles of the unfinished Mooner road from Pine Level to Orion, and for grading and graveling a mile of road leading out of Merry, on the Seaboard Air Line, to Mt. Meigs are being considered by the County Board of Revenue.

**Fort Smith, Ark.**—Council has referred the paving of Lexington avenue to Street and Alley Committee; also passed petition for temporary paving only on Garrison avenue.

**Hot Springs, Ark.**—Council has decided to extend the paving on Ouachita avenue.

**Little Rock, Ark.**—Council has granted the request of petitioners to pave Sixteenth south to the corporate limits.

**Oakland, Cal.**—Council has adopted resolutions to grade, curb and macadamize Adams and Livingston streets and Park avenue.

**East San Jose, Cal.**—The Board of Trustees has ordered owners to lay sidewalks on the streets upon which work had been ordered, or it will be done by the Board; also granted permission for a sidewalk on Clay street.

**Oakland, Cal.**—Council has ordered the grading of Chapman and Fifth streets and Athol avenue.—F. R. Thompson, City Clerk.

**San Jose, Cal.**—A resolution instructing the City Engineer to furnish estimates of the cost of laying bitumen pavement on concrete foundation and concrete sidewalk, curb and gutter on fifteen streets is being considered by Council. Bids for the improvement of Terraine street were rejected and the Clerk was directed to readvertise. The Street Superintendent has been instructed to notify property owners to construct sidewalks on Margaret street, from First to Whitney, and on east side of Sixth street, from Reed to Margaret; \$2,500 has been ordered transferred from the General Fund to the Street Improvement Fund.

**Hartford, Conn.**—The Board of Aldermen has passed resolutions for establishing curb and grades on New Britain avenue.

**Denver, Col.**—The Board of Supervisors has decided to extend the Cherry Creek Drive along the east and west bank of Cherry Creek.

**Takoma, D. C.**—The Takoma Park Citizens' Association is urging the elimination of the grade crossing at Cedar street; C. B. Hunt, Engineer of Highways, has estimated the cost of overhead bridge at \$50,000.

**Waterbury, Conn.**—The Bureau of Engineering has requested \$7,000 for a concrete mixing machine, a request for \$5,000 for improvement of the city yards, and an increase in the item of street repairs and maintenance from \$25,000 to \$50,000.

**Jacksonville, Fla.**—The Board of Public Works has ordered the Special Committee, Commissioner Aird and City Engineer Prioleau, to expend \$3,500 on repairing streets.

**Jacksonville, Fla.**—The Board of Public Works has ordered City Engineer to see that suitable sidewalks are placed on First street near Hubbard.

**Americus, Ga.**—The Sumter County Board has under consideration an issue of \$100,000 road improvement bonds.—Address County Auditor.

**Buda, Ill.**—The Village Board has directed specifications to be prepared for cement walks, estimated to cost \$10,000.

**Chicago, Ill.**—November 17, bids will be received for labor, combined concrete curb and gutter and paving with asphalt portions of Lawrence avenue.—Address Paul Redieske, Deputy Commissioner.

**Chicago, Ill.**—Commercial club is urging plans for an overhead boulevard link connecting the north and south sides through Michigan avenue.

The widening and paving of Michigan avenue between Jackson Boulevard and Randolph street is contemplated.

**Moline, Ill.**—Contracts will probably be let in about 60 days for the construction of five miles of 6, 8, 10, 12 and 15-inch pipe sewers.—Clark G. Anderson, City Engineer.

**Peoria, Ill.**—Council is investigating the material to be used for paving Adams street.

**Rockford, Ill.**—Council is considering specifications for paving certain streets; it is not yet decided whether the streets will be paved with asphalt or brick.

**Springfield, Ill.**—Plans are being prepared for paving Fayette avenue with asphalt and Carpenter street with brick.

**Fort Wayne, Ind.**—Comptroller A. M. Schmidt is considering request of the Board of Works for an appropriation of \$22,000 to repair the streets.

**Indianapolis, Ind.**—Work on paving center of Union street has been postponed till spring.—Blaine Miller, City Engineer.

The Board of Works has confirmed resolutions for grading La Salle street, asphalt-paving Parking avenue, graveling Warman avenue; also cement walks on Thirty-first street and Park avenue.

**Ottumwa, Ia.**—November 15, bids will be received for curbing Triangle park.—Julius Fecht, Secretary.

**Sioux City, Ia.**—Aldermen are urging paving of Wall street from south approach of viaduct to Dan street; cost, \$4,000 to \$5,000.

**Coffeyville, Kan.**—Council has passed petitions for a number of sidewalks.

**Lawrence, Kan.**—Council has received petitions changing grade of alley between Henry and Warren streets; postponed resolution to pave Berkeley street.

**Leavenworth, Kan.**—An ordinance for the paving of two blocks of Elm street with oil macadam has been passed.

**Topeka, Kan.**—Council is considering ordinance for opening of Roosevelt, Grove.

Lincoln and Seventh streets and Woodlawn avenue; also for opening of Lygart avenue.

**Ashland, Ky.**—City will construct vitrified brick pavements, concrete curb and gutter and concrete headers; approximate quantities are 44,450 square yards paving, 21,000 linear feet combined curb and gutter and necessary catch basins for same, 8,500 linear feet concrete headers.—J. O. Mathewson, Mayor.

**Lexington, Ky.**—An ordinance ordering the construction of concrete sidewalk, guttering and curbing on each side of Ashland avenue from Main street to Hambrick avenue has passed the lower Board; also an ordinance ordering the construction of concrete sidewalk, guttering and curbing on each side of High street from Woodland avenue to Ashland avenue.—John Skain, Mayor.

**Louisville, Ky.**—The Board of Public Works has ordered the construction of Hite avenue from Frankfort to Field avenue; a feature about the improvement is that the street is to have two carriageways, so as not to interfere with the trees on the street; the estimated cost of the improvement is \$7,000; also the improvement of the first alley south of Broadway, between Sixth and Seventh; estimated cost, \$1,800.

**New Orleans, La.**—City Engineer Wm. J. Hardee has notified the Comptroller, and sent him plans for several streets which Council has directed shall be paved; every week of late Captain Hardee has prepared plans and specifications and made them ready for the Comptroller to call for bids for street paving; the Comptroller has been asked to advertise for bids for paving Pine street from St. Charles avenue to Magnolia with chert; for paving Short street, from Jeannette to Birch with asphalt; South Franklin, from Peters avenue to Calhoun, with asphalt; Soniat, from St. Charles to Coliseum, with asphalt; Carondelet, from Polymnia to Felicite, with asphalt.

**New Orleans, La.**—Council will pave Carrollton avenue from St. Charles avenue to City Park.

**Baltimore, Md.**—A movement is on foot among residents of North Walbrook and Forest Park for a beautiful boulevard to be built along Liberty road, from Walbrook junction to the city line; boulevard will connect with the proposed boulevard along Old Liberty road, from Druid Hill Park to Forest Park; Frank H. Callaway is fathering the scheme, which has been presented for approval to the Annex Commission.

**Cumberland, Md.**—Council has adopted ordinances for paving Queen City Road and Harrison street.

**Hagerstown, Md.**—The Washington County Commissioners have rejected all bids, ranging from \$20,000 to \$25,000, for construction of Charlton road, and decided instead to macadamize road at cost of \$3,000.

**Boston, Mass.**—The Board of Street Commissioners has decided on laying out and construction of Melbourne street, Cottage terrace, May and Radcliff streets; also Montfern avenue.

**Dartmouth, Mass.**—Citizens have voted \$8,000 for continuing the macadamizing on South Neck road.

**Haverhill, Mass.**—Council has passed a bond ordinance of \$3,000 for Locust street block paving.

**Grand Rapids, Mich.**—Council has adopted resolutions for paving Sheridan avenue and North Pine street, and has ordered Board of Public Service to estimate cost of grading Julia, Monroe and Island streets; also Wealthy and Boston avenues.—J. L. Boer, City Clerk.

**Grand Forks, Mich.**—City bonds, \$100,000, will be issued by city; \$38,000 paving bonds have been sold.—City Auditor W. H. Alexander.

**Grand Rapids, Mich.**—Property owners on Genesee street have petitioned for changing the width of the proposed widening of the street from 66 to 50 feet. Alderman McNabb is urging the early paving of N. College avenue.

**Muskegon, Mich.**—The Board of Supervisors of Muskegon County and the city have decided to widen the North Muskegon road 24 feet; a 2-mill tax is to be raised for this purpose.

**Ypsilanti, Mich.**—Council is discussing material to use on Congress street hill in place of brick.

**Virginia, Minn.**—Council is preparing for the improvement of the city's streets; work to be started next spring.

**Oxford, Miss.**—The citizens have voted \$25,000 street improvement bonds.

**Pascagoula, Miss.**—Sidewalks and curb will be laid on a large number of streets following the improvement of four streets, contract for which has been let to the Sullivan & Davis Contracting Company, of Montgomery, Ala.

**Carthage, Mo.**—Council has ordered the improvement of Valley street.—I. F. Shannon, City Clerk.

**Joplin, Mo.**—Council has secured ordi-

nances for grading Taylor and Galena avenue; also alley between Main and Joplin streets.

**Kansas City, Mo.**—Guy Pearson, City Comptroller, is urging the issue of \$80,000 bonds for street repair plant; Council has passed ordinances for paving two streets and changing grade on seven.

**Kansas City, Mo.**—The Board of Public Works has adopted resolutions for the paving of Eighth, Wyoming, McCoy, Scarritt, S. Benton and Seventh streets; also constructing granitoid sidewalks on Mer-sington, Walrond, Harrison, Kensington, Fremont, Grand, Chelsea and Poplar streets.

**Charlotte, N. C.**—The Charlotte Consolidated Construction Company will expend about \$20,000 in car track improvements on South Tryon street; center and narrow space on either side of outside rails will be paved with vitrified brick.

**Omaha, Neb.**—Asphalt and brick paving with Bedford stone curbing has been ordered by Council.

**Omaha, Neb.**—Bids will be received December 1 for the purchase of \$252,500 4½ per cent. street improvement bonds.—Frank A. Furay, City Comptroller.

**East Orange, N. J.**—The Board of Assessments has ordered the widening of Main street, from Winans street to Arlington avenue; plans provide for following the original lines of the street, cutting off four feet for the entire distance on the north side.

**Perth Amboy, N. J.**—The Board of Aldermen has passed an ordinance on first reading for paving four streets.

**Albany, N. Y.**—The Secretary of the Board of Contract and Supply has been instructed to advertise for bids for the improvement of Whitehall street from Second avenue northerly.

**Albany, N. Y.**—Council has ordered repaving of Maple avenue and Broadway and passed ordinance appropriating \$1,000 for purpose of completing the Judson street connection with the Manning Boulevard.

**Buffalo, N. Y.**—The Board of Supervisors has approved plans for a rock asphalt treatment of the Anglo-Evans Corners road; cost, \$8,500.

**Buffalo, N. Y.**—Council has ordered the repaving of Vary street and plank sidewalks in numerous other streets.—F. G. Ward, Commissioner of Public Works.

**Douglaston, L. I., N. Y.**—Plans have been drawn for changing the grade of Main street, at the station near Douglas Manor, so that the grade crossing there will be eliminated; to do this it will be necessary to construct a new section of Main street.

**Rochester, N. Y.**—Council has ordered cement walks on Howell street and on Lenox street with brick added to the specifications.

**Rochester, N. Y.**—Council has passed first ordinances for grading Swenton and Elgen streets, walks on four streets; also extension of Schafer and Benning streets.

**Troy, N. Y.**—Bids will be received November 20 for paving of Congress street.

**Utica, N. Y.**—The Board of Contract and Supply has received a petition from property owners on Whitesboro street, asking that asphalt be used in resurfacing the street.

**Ashland, O.**—A. P. Black, Village Clerk, will soon invite bids for paving Bank street and for grading and curbing that thoroughfare.

**Bellaire, O.**—Council has passed ordinances and approved resolutions for the improvement of a half dozen streets.

**Canton, O.**—It is proposed in the spring to pave North Cleveland avenue from the present paving terminus to the corporation line, at a cost of about \$25,031.—Chas. Zellars, Clerk Board of Public Service.

**Columbus, O.**—County Engineer Braun has been authorized to prepare plans for repairing West Fifth avenue, at an estimated cost of \$1,800; it will be paved with crushed stone.

**Cincinnati, O.**—Council has directed Chief Engineer to estimate cost of grading Kley-bolte and Gilmore avenues. The Board of Public Service has estimated the cost of improving Burns street with wood blocks at \$15,956.45.

**Cincinnati, O.**—The Board of Commissioners have estimated cost of paving Burn street with wood blocks, \$15,956; Dover street with brick, \$12,142, and Wunder avenue with macadam, \$8,796.

**Dayton, O.**—Committee of property owners of East Monument street have agreed to plans for repaving that avenue.

**Dayton, O.**—Property owners living on Monument avenue, between Keowee street and the canal bridge have decided to pave the street under a private contract to save the cost of advertising for the bids.

**Delaware, O.**—Council has passed ordinances for improvement of Van Deman avenue and South street.—F. D. King, Clerk.

**Hamilton, O.**—Council has passed resolutions declaring it necessary to improve

Gray avenue, North E street, Rhea avenue and Mason avenue by grading, graveling, curbing, guttering and paving the sidewalks with cement; also Court street alley, from Front to Third street, by paving the roadway thereof with sheet asphalt, vitrified brick or bitulithic or bituminous macadam.

**Ironton, O.**—Council has received petitions for grading Walnut and Fifth streets.

**Oakwood, O.**—Council has decided to improve Dixon street.—H. E. Parrott, Clerk.

**Toledo, O.**—Barto, Scott & Co., of Columbus, have purchased \$6,000 sidewalk improvement bonds. Council has returned to Committee proposition for paving Auburn avenue from Monroe street to Central avenue. Four hundred and fifty miles of sidewalks have been laid this season; four hundred miles are still necessary.

**Toledo, O.**—The Public Improvement Commission has decided to pave a portion of Auburn avenue at an estimated cost of \$31,000.

**Youngstown, O.**—City Council has passed ordinances for the sidewalks in Ino avenue and Fithian street; also requiring Erie, Pennsylvania and Baltimore and Ohio railroads to prepare plans for eliminating the Spring Common grade.

**Coweta, Okla.**—The city will vote on issue of \$80,000 of bonds for paving, construction of water works, etc.

**Hobart, Okla.**—A delegation of citizens is securing data with view of getting what is best for Hobart streets; asphalt will probably be used, although bitulithic is also favored.

**Muskogee, Okla.**—Council has passed resolutions to pave East Broadway, Lincoln, Maple and Walnut streets; bids will be advertised for at once.

**Muskogee, Okla.**—Council has ordered the macadamizing and grading of twenty streets.—Morgan Caraway, Clerk.

**Butler, Pa.**—Council has passed ordinance for paving East Butler street over veto of the Mayor.

**Greensburg, Pa.**—Street Committee will lay several sidewalks; Borough Council also passed ordinances for paving Arch street, and received petitions for paving in Seventh Ward and on George street.

**Harrisburg, Pa.**—The city must provide for the repair of 118,000 square yards of asphalt paving within a year, and more every year until 1911, when 385,000 square yards must be repaired, and officials are considering the purchase of a repair plant.

**Harrisburg, Pa.**—Council is considering ordinances for paving, etc., Reese, Nectarine and Mary streets and Shanklin alley.

**Pittsburg, Pa.**—The citizens of the 29th Ward have petitioned for the construction of a boulevard; the work will include grading and paving.—Address Clerk, Board of Public Works.

**York, Pa.**—Council has received a petition for paving East Market street from Pine to Broad.—Chas. F. Schreiner, City Clerk.

**Newberry, S. C.**—Bids are invited for about 1,200 yards of street pavement with vitrified brick or bitulithic.—Engene S. Wertz, City Clerk and Treasurer.

**Orangeburg, S. C.**—Bids will soon be received for paving with vitrified brick Main street, and for paving with macadam Russell street.—Edward Hawes, Jr., City Engineer.

**Lead, S. D.**—Council has received numerous petitions for sidewalks, also for extension of McClelland ave.

**Chattanooga, Tenn.**—The Board of Public Works has deferred action on bids received for brick paving on 3,500 feet roadway on East Main street; will redadvertise.—H. F. Van Dusen, Chairman.

**Knoxville, Tenn.**—Council has granted the Knoxville Railway and Light Company right to pave between its tracks with granitoid pavement where districts have been paved with granitoid.

**Nashville, Tenn.**—Council has received an ordinance for grading, bedding and macadamizing Sixteenth avenue.

**Rogerville, Tenn.**—The Phoenix Bank of Chicago has purchased \$40,000 road bonds; these are first of \$160,000 bonds to be issued for improvements of roads.

**Austin, Tex.**—Superintendent of Public Buildings W. C. Day has asked for \$3,000 appropriation for cement walks outside the capitol grounds.

**Dallas, Tex.**—All bids for improving Jackson street have been rejected and new ones advertised.—J. B. Winslett, City Secretary.

**El Paso, Tex.**—The County Clerk writes that an election will be held on December 5 to vote on issuing \$250,000 bonds for road improvement.—A. Eylor, County Judge.

**Ft. Worth, Tex.**—Estimates are being prepared for paving Boaz street.

**Ft. Worth, Tex.**—The City Commissioners have under consideration the paving of West Seventh street.—Sam Davidson, Street Commissioner.

**Salt Lake City, Utah.**—Council has approved recommendations of Street Commit-

tee for improvements on Fourth East and Seventh East, including paving and parking.

**Salt Lake City, Utah.**—A petition has been filed with the City Recorder asking that Council order the paving with refined asphaltum of West Temple between Fifth and Seventh South, a total of 2,640 feet long.—L. C. Kelsey, City Engineer.

**Alexandria, Va.**—Council has recommitted to the Street Committee a resolution for graveling Alfred street; cost, \$1,800; also passed ordinances for establishing curb on Queen and Wolfe streets.—E. C. Dunn, City Engineer.

**Norfolk, Va.**—Resolutions appropriating \$60,000 for improvements to Westover and Graydon avenues, Leigh, Matsaca and Claremont streets, and \$11,500 for the paving of Graydon avenue between Mantee street and Colonial avenue, have been approved by the Finance Committee of Councils.—W. T. Brooke, City Engineer.

**Norfolk, Va.**—If property owners on Graydon avenue needing paving will pay an assessment equal to the property owners of the same thoroughfare who have asphalt in front of their residences, the city will spend \$11,490 in making improvements.—W. T. Brooke, City Engineer.

**Norfolk, Va.**—The Finance Committee has agreed to recommend to Council that the proposition of the Westover Land Company to buy \$60,000 worth of city bonds, the money to be used in improving streets on which the company owns property, be accepted.

**Norfolk, Va.**—Engineer Frank Portlock, of Norfolk County, has given the Board of Control advice which insures the desired improvement of the Jamestown boulevard.

**Roanoke, Va.**—The Finance Committee of Council will issue \$600,000 street improvement bonds.

**Tacoma, Wash.**—Council has ordered about four miles of new pavement, of which about one and a half miles will be of brick or treated wood, one mile of macadam, and the balance of asphalt; there is also ordered for next year about fifty miles of grading, including concrete sidewalks and storm water drainage, to cost about \$16,000 per mile.—Frank L. Davis, City Engineer.

**Toronto, Ont., Can.**—The paving of Galloway avenue and King street with asphalt, Dufferin and N. Markham streets with asphalt block and King street with brick are under consideration; probable cost, \$40,567.

**Winnipeg, Man., Can.**—The Board of Public Works contemplates expending \$11,000 on paving several streets with asphalt.—H. N. Rutlan, City Engineer.

## SEWERAGE

**Birmingham, Ala.**—Work will soon be begun on system of storm and sanitary sewers; cost of this additional sewerage \$850,000; building will take three years.—Address City Engineer.

**Newport, Ark.**—Lund & Hill, of Little Rock, are completing plans for sewerage system.

**Warren, Ark.**—A sewerage system will be installed here.

**El Centro, Cal.**—Engineers Olmstead & Gillesen, Wright & Callender building, Los Angeles, have prepared plans for a sewer system for this city.

**Ocean Park, Cal.**—City will issue \$35,000 bonds to extend sewerage at Wendward avenue 900 feet farther into the ocean.

**Oakland, Cal.**—Council has ordered sewer in Seventeenth street.—W. C. Howe, Superintendent of streets.

**Santa Barbara, Cal.**—City Engineer Batty is preparing plans for a sewer system in the eastern section.

**San Pedro, Cal.**—The City Engineer has prepared plans for a sewer in First street starting at intersection of First and Palovardes streets.

**Athens, Ga.**—The Sewer Committee is discussing the construction of a number of important sewers; cost, \$40,000; a pumping station will be erected to pump the sewage from beyond the Nacooche hill on the boulevard.

**Athens, Ga.**—City Engineer Barnett has prepared plans for the proposed extensions to the sewer mains and work will be pushed.

**East Point, Ga.**—City has voted \$20,000 of bonds for construction of sewerage system; E. H. Davis, Griffin, Ga., engineer; J. C. McKenzie, Mayor.

**Aledo, Ill.**—City will construct a sewage disposal plant.

**Indianapolis, Ind.**—The Board of Works has confirmed resolution for sewer in Davidson street.

**Topeka, Kan.**—Council has ordered City Engineer to investigate condition of catch basin and sewer at Tenth street and report.

**Bowling Green, Ky.**—Council has directed estimates to be prepared for sewer construction estimated to cost \$15,000.

**Covington, Ky.**—Council has authorized the construction of sewers in Julia and Eighteenth streets; plans will be prepared at once.

**Glasgow, Ky.**—The question of issuing \$15,000 sewer bonds will be submitted to a vote of the people.

**Lexington, Ky.**—At a meeting of the Joint Improvement Committee, at Mayor Skain's office, the ordinance providing for a sanitary sewer on South Broadway from Chair avenue to the city limits was recommended for passage.

**Lexington, Ky.**—City has voted \$23,000 sewer bonds.

**New Orleans, La.**—Consolidated Land Co. will construct sewer system and waterworks, cost \$15,000; R. C. Huston, New Orleans, Engineer; I. T. Delehan, Secretary.

**Oakland, Md.**—A sewerage system and water works will be installed here.

**Lawrence, Mass.**—Committee on Sewers have voted to recommend lowering of sewer on Lawrence street; cost, \$5,000; also voted construction of sewer on Whipple street; cost, \$10,000.

**Detroit, Mich.**—Council has directed the Department of Public Works to advertise for proposals for the construction of a vitrified crock lateral sewer through an alley.—J. J. Haarer, Commissioner.

**Grand Rapids, Mich.**—The Board of Public Works will receive bids Nov. 12 for furnishing and erecting sewage pumping station.—Address Geo. C. Peirce, President.

**Grand Rapids, Mich.**—Council has ordered the Board of Public Works to estimate cost of sewer in Julia street; the Board has estimated cost of constructing sewer in Eureka avenue at \$310, and Wealthy avenue at \$590.—Samuel A. Freshney, Secretary.

**Ypsilanti, Mich.**—Council has ordered sanitary sewer in Florence street.

**Albert Lea, Minn.**—Estimates are being prepared for sewer system; citizens will vote on issuing bonds.—T. V. Knatwold, City Attorney.

**St. Paul, Minn.**—The City Engineer has planned for the Cortland-Aldine sewer system; cost, \$75,000.

**Joplin, Mo.**—Council has passed an ordinance establishing the Roanoke sewer district No. 1.

**Kansas City, Mo.**—Guy Pearson, City Comptroller, is urging issue of \$300,000 bonds for disposition of sewage.

**St. Louis, Mo.**—The Board of Public Improvements has approved ordinances for the construction of small sewers in the Harlem Creek and Cora avenue sewer districts, aggregating \$135,000; all except \$10,000 of the work is to be done in the Harlem Creek district.—A. J. O'Reilly, President.

**Aurora, Neb.**—The city will receive sealed bids, November 12, for the construction of a sanitary sewer in district No. 3, of the City of Aurora, Neb., and requiring quantities approximately as follows:

Third District.—6,250 feet 8-inch vitrified pipe sewer; 200 6-inch connections; 20 manholes.—Dennis Saylor, City Clerk.

**Jersey City, N. J.**—The Street and Water Commissioners contemplate the construction of a main sewer in Tonnele avenue and Terrace avenue; also a lateral sewer in North street, etc., to connect with joint outlet sewer.—George T. Bouton, Clerk.

**Perth Amboy, N. J.**—The Roessler and Hasslacher Chemical Company has asked permission of Council to build sewer from plant to Staten Island Sound through Buckingham street.

**Ft. Bayard, N. Mex.**—All bids were rejected for constructing two sewer extensions and installing one fire hydrant; work will not be readvertised.

**Fulton, N. Y.**—The Board of Public Works has purchased a site for a disposal plant for the West Side sewerage system.

**Melba, N. Y.**—Engineers of Queens Borough have approved plans submitted by the Realty Trust for connecting the sewers of Melba with the trunk sewer; work will begin at once.

**New York, N. Y.**—Property owners of Broadway, Flushing, are urging construction of sewer in Twenty-sixth street from Queens to Hanford avenue.—C. E. Findlay.

**Canton, O.**—A committee from this city visited Alliance for purpose of securing data for getting rid of the sludge at local plant in some other way than pumping it up on the adjacent lowlands as is now done.

**Rochester, N. Y.**—Council has passed final ordinances for sewers on Spruce and Snyder streets; Edwin H. Fisher, the City Engineer, is preparing plans for the construction of vitrified pipe sewers there and bids will be asked by the Board of Contract and Supply.

**Rye, N. Y.**—Bids opened on Oct. 28 for construction of sanitary sewers and of a sewage disposal plant have been rejected; new bids will be received by the Village Trustees Nov. 18.—G. Everett Hill, Engineer.

**Whitestone (L. I.) N. Y.**—The Board of Estimate and Apportionment has adopted a resolution approving the plan and speci-

fications for the construction of a temporary sewer in Fourteenth avenue, between Twenty-seventh and Fourteenth streets, Whitestone; the sewer is to be 1,000 feet long; estimated cost, \$8,500.

**Grand Forks, N. D.**—The Ordinance Committee has recommended for passage "an ordinance defining the Boundaries of Sewer District No. Two" and, on motion of Alderman Vallely, seconded by Alderman Buckingham, the ordinance passed its first reading.

**Fargo, N. D.**—Bids will be received Nov. 12 for constructing 12-in. lateral sewer in portions of Eleventh street North and Seventh avenue North, Sewer Dist. No. 1.—N. C. Morgan, City Auditor.

**Cincinnati, O.**—Council has ordered Chief Engineer to prepare plans for sewers in Alabama and Third avenues.

**Cleveland, O.**—Bids will be received by the Secretary Board of Public Service Nov. 12 for construction of a sewer in East Twelfth street.

**Hamilton, O.**—Council has ordered storm water sewers on Progress avenue alley, on Rhea and Eaton avenues, and has passed resolutions instructing the City Civil Engineer to prepare plans and specifications for the construction of storm sewers on Front street, from Crawford's Run to Walnut; Wood to Chestnut; Hanover, from Front to Second; Washington, from Front to the Miami River, and from Front to Bremen; Walnut to Front and Second, and Chestnut street to Front and Second streets; also determining to proceed with construction of storm water sewers on Brosley, Fairview and Benninghofen avenues.

**Ironton, O.**—Council has received petitions for sewers in Beech alley and in District No. 6.

**Lancaster, O.**—Bids will be received November 20 for the purchase of \$12,000 4 per cent. sewer bonds.

**Mt. Gilead, O.**—Engineer W. B. Eells has submitted his plans for a complete sewerage system for this town; it provides for a septic tank and filler beds built of concrete with a reinforced roof and manholes; the plans have not as yet been accepted. Mr. Frank Webb has been elected the new street commissioner.

**Newtown, O.**—The village is considering the improvement of its sewerage system.

**Niles, O.**—Council has passed ordinance for the acquiring of land and the construction of a sewage disposal plant.

**Sandusky, O.**—The Council has passed ordinance to enlarge Scott street sewer; also construct sewer in Cable Park addition; cost, \$5,000.

**Wilmington, O.**—No steps have yet been taken for the construction of a drainage system.—Frank Babb, City Clerk.

**Youngstown, O.**—City Council has passed an ordinance for construction of sewer in Poland avenue.

**Muskogee, Okla.**—Recent bond election authorizing \$300,000 issue for sewer construction is void.—T. H. Martin, Mayor.

**Brownsville, Ore.**—The city will build a sewerage system next spring, at a cost of about \$10,000.—O. Anderson, City Recorder.

**Connellsville, Pa.**—Council is considering the plans of the State Board of Health for a sewer system.

**Derry, Pa.**—Bids will be received November 16, 8 p. m., for construction of 37,570 feet of sewers.—J. M. Nicholson, Borough Clerk.

**East McKeesport, Pa.**—Council has ordered Sewer Committee to confer with Engineer and get plans for a sewage disposal plant along with plans for sewer system.

**Harrisburg, Pa.**—Council has passed ordinances for construction of sewer in North from Fifteenth street to a point 90 feet west of Sixteenth street; constructing a sewer in Green street from Hamilton street to Harris, and for constructing sewers in Green and Granite streets.

**Wilkes-Barre, Pa.**—Council has passed first reading ordinance negotiating a \$16,000 loan for sewer purposes.

**Rock Hill, S. C.**—Solomon Norcross Company, Engineers, Atlanta, Ga., has prepared preliminary estimates and engineering report on sewer system to be constructed at Rock Hill.—Jno. T. Roddey, Mayor.

**Lead, S. D.**—Council has secured petition for sewers in South Sawyer and Short streets.

**Angleton, Tex.**—The Attorney-General has approved of an issue of \$100,000 Brazoria County drainage bonds.—County Auditor.

**Austin, Tex.**—The East Austin Improvement Club is urging the construction of the proposed municipal sewer and drainage system.—City Engineer Tredell.

**Denton, Tex.**—Scrip. \$12,495 will be issued as a supplementary fund for construction of sewer system.

**Houston, Tex.**—The city has voted \$225,000 bonds for the construction of sanitary sewers and \$225,000 for the construction of storm sewers.—H. B. Rice, Mayor.

**Alexandria, Va.**—Council has referred to

Finance Committee resolutions for construction of sewer in Wolfe street; cost, \$765; also resolution for street and sewer work, cost, \$6,000.—Fred Paff, Mayor.

**Norfolk, Va.**—The plans of W. T. Brooke, City Engineer, have been adopted for improvement in connection with the Newton's Creek drainage system.

**Northfolk, W. Va.**—Northfolk Realty Co., Box 16, is preparing plans for sewerage system.

**Kenosha, Wis.**—Property owners on Ashland avenue have petitioned for a trunk sewer; estimated cost, \$200,000.—Address City Clerk.

**West Allis, Wis.**—Council has issued \$90,000 bonds for six miles of sewerage.

## WATER SUPPLY

**Greenville, Ala.**—Council has completed final arrangements for the purchase of the water works. J. R. Porterfield will be Superintendent.

**Osceola, Ark.**—City has sold \$25,000 bonds; will construct water-works.—Address The Mayor.

**Phoenix, Ariz.**—The Southwestern Sugar & Land Company, R. P. Davis, General Manager, will erect pumping plant on Agua Fria River to supply the sugar factory at Glendale and town with abundance of water.

**Claremont, Cal.**—The city will expend \$6,000 improving pumping station.

**Sacramento, Cal.**—Judge J. A. Waymire of Alameda is interested in a prospect for supplying the bay cities and intermediate points, including Sacramento, with water from Lake Tahoe, the Truckee River and the North Fork of the American River; it is proposed to divert water from the Truckee River four miles below Lake Tahoe, carrying it in a concrete canal to Squaw Creek Valley, thence tunneling five and a half miles through the mountains to Soda Springs, at the head of the American River, thence by canal and pipe to the north fork of the American and to Dutch Ravine, near Newcastle, from which point the water would be piped to the bay, a distance of 120 miles. It is estimated that 300,000-horsepower of electrical energy could be generated along the route; estimated cost of entire work, \$20,000,000.

**San Francisco, Cal.**—Desmond Fitzgerald and Prof. C. D. Marx have made their report on the available water supply from the Lake Eleanor and Hetch-Hetchy sources, answering in the affirmative the question which was submitted to them by the Public Utilities Committee of the Board of Supervisors in the following terms: "Will the proposed development of the Lake Eleanor and Hetch-Hetchy reservoir sites be sufficient to enable San Francisco to secure a water supply of 200,000,000 gallons per day from the Tuolumne river, due regard being had for the granted rights of the Modesto and Turlock irrigation districts to the natural flow of the river up to 2350 second feet?"

**San Diego, Cal.**—The Board of Public Works recommends the purchase of water and sewer pipe; \$65,000 will be expended improving water and sewer system.

**Yuba City, Cal.**—Engineer McMurtry has plans for the new municipal water plant.

**Hartford, Conn.**—The Water Board is considering the question of increasing the water supply, including the construction of a reservoir at Nepaug.

**Waterbury, Conn.**—The Board of Aldermen has voted that the City Engineer prepare plans and make a survey of the land, watersheds, etc., at the Twitchell and Russell dams in the Prospect Valley district for proposed new reservoirs.

**Waterbury, Conn.**—The Board of Public Works has appropriated \$10,000 for laying a new water main on Baldwin street.

**Wilmington, Del.**—The Water Department has granted the Delaware Water Company, a subsidiary concern of the Pennsylvania Railroad Company, permission to install its water mains in the company's right-of-way through this city; in return for the concession the city expects to get a 10-year lease on the railroad company's property at Fourth and Church streets for city park purposes.

**Tallahassee, Fla.**—The city has concluded the purchase of the water works and gas plant, for which \$75,000 of bonds have been voted.

**Athens, Ga.**—Council has ordered a 6-inch main laid in Cedar street; also 1-inch main on Nacoochee avenue; distance, 1,200 feet.

**Douglas, Ga.**—Bonds, \$35,000, have been voted for school and water works purposes.

**East Point, Ga.**—The citizens have voted \$85,000 bonds for the construction of water works, a sewerage system and an electric light plant.

**Weiser, Idaho.**—Bonds on \$10,000 have been authorized for the extension and improvement of water system.—Address City Clerk.

**Evansville, Ind.**—The Mayor has signed

ordinance for \$25,000 addition for building filter plant; money available, \$250,000.—Engineer, Jas. N. Alvord.

**Wareland, Ind.**—Citizens have formed private water company; will put in pressure tank; gasoline engine will operate pumps.

**Waveland, Ind.**—A private water company has been organized to sink wells and build water tower. The pumps will be operated by gasoline engine.—Address H. C. Johnson.

**Council Bluffs, Ia.**—Citizens have voted an issuance of \$600,000 in bonds to be devoted by the city to the construction of a municipal water works plant; another election will be held to pass upon any contract the Council may wish to enter into; plans for a plant have already been tentatively accepted.

**Ft. Dodge, Ia.**—Architects Albright & Bradford have prepared plans for a one-story pump house for the city.

**Perry, Ia.**—An ordinance has been passed authorizing the purchase of water meters.

**Pella, Ia.**—Estimates are being prepared for securing water supply from the Des Moines River; distance, 3 miles; cost, \$5,000.—Address City Clerk.

**Spirit Lake, Ia.**—Oscar Claussen, German-American Bank Bldg., St. Paul, Minn., is preparing plans for water works, to cost about \$20,000.—A. W. Osborn, City Clerk.

**Yorkville, Ill.**—H. D. Hallet has completed plans for reservoir and pump to increase the water pressure at the city water works; bids will be called for.

**Argentine, Kan.**—Council has ratified the contract to purchase water from Kansas City; also took the first step looking to the purchase of its own water plant by instructing the company and City Engineer to prepare estimates of the value of the plant; the Argentine Water Company is said to be willing to sell for \$30,000.

**Baldwin, Kan.**—At a special election it was voted to issue \$85,000 bonds for a water works.

**Columbus, Kan.**—Estimates are being prepared for water works.

**Breaux Bridge, La.**—City is discussing construction of water works.—Address the Mayor.

**Boston, Mass.**—The Fire Chief recommends an improved pumping station to secure water for fire protection.

**Brookline, Mass.**—The town has authorized Water Board to contract for water pipe to the extent of \$7,000.

**East Hampton, Mass.**—Bids will soon be received by the Water Commissioners for construction of pumping station.

**Holyoke, Mass.**—Council will ask Legislature for permission to issue \$28,000 bonds for water installation.

**Lawrence, Mass.**—The Water Board will ask bids in January for 6, 8 and 12-in. pipe.

**New Bedford, Mass.**—The Water Board has received seven petitions for extension of main pipe.

**Oakland, Md.**—Bids for constructing the water works plant were withdrawn; may be readvertised for if sufficient water supply can be had.—J. C. Dunham, Clerk; Penniman & Fairley, Engineers, Marine Bank Bldg., Baltimore.

**East Lansing, Mich.**—Bonds \$10,000, have been authorized by the city for the construction of a water works and sewerage system; the pumps will probably be operated by electric power, although construction plans are not yet fully developed.

**Grand Rapids, Mich.**—City will probably ask two sets of bids for the new 12,000,000-gallon pump; one based on old plans and specifications, and other on newly arranged ones.—Board of Public Works, Mayor Ellis.

**Shakopee, Minn.**—W. C. Fraser, of Rochester is considering construction of water works at Shakopee.

**New Ulm, Minn.**—Bids will be received for 5,200 feet of water pipe and specials, also for laying same on Center street.—Ernst Wicherski, City Clerk.

**St. Paul, Minn.**—Crocker & Fisher of Boston purchased \$50,000 St. Paul water bonds at a premium of \$16.50.

**Argentine, Mo.**—City Council has received estimate of cost of water works to be purchased from M. J. Buchan, owner of Argentine Water Works; price, \$30,000 entire plant; with pumping station, \$27,500.

**Carl Junction, Mo.**—Citizens will vote on issuing bonds for providing water for fire protection; it is proposed to sink a deep well and establish a stand pipe.—Address City Clerk.

**Kansas City, Mo.**—Guy Pearson, City Comptroller, is urging issue of \$1,500,000 bonds for construction of water works.

**Stevensville, Mont.**—Council has under consideration the establishment of water system.—Address City Clerk.

**Sutton, Neb.**—The water-works pumping station has been destroyed by fire; loss, \$2,000.—Address City Clerk.

**Haddonfield, N. J.**—The Haddonfield Water Company proposes to expend \$7,000 improving plant.—Address Secretary.

**Jersey City, N. J.**—The Street & Water

Board has adopted plans for a pump to be placed on North street to help drive the Boonton water to the upper stories of the Hudson City buildings; pump will be constructed under Engineer J. W. Griffin's direction and be erected immediately.

**Jamestown, N. Y.**—The Erie Railway has purchased site on which to build a 70,000-gallon pumping station to furnish water for locomotives.—C. W. Buchholz, Chief Engineer, New York City.

**Lockport, N. Y.**—An ordinance has been introduced in Council for the extension of the Market street water main from the end of the present main to the Odd Fellows' Home and Orphanage.

**Rochester, N. Y.**—Comptroller Pond has sold \$500,000 worth of water works and local improvement bonds.

**Rochester, N. Y.**—Council has ordered the Commissioner of Public Works to extend water mains in Lincoln street; also construct sewer in Angle street, Spruce avenue and Snyder street.

**Boone, N. C.**—The city contemplates the construction of a system of water works; Benjamin T. Brannocks is interested.

**Canton, N. C.**—City Engineer B. M. Lee, of Asheville, N. C., has completed a survey for a water works system.—Address the Mayor for information.

**Apple Creek, O.**—Bonds, \$7,000, have been authorized for the construction of water system.—Tilden Landell, Village Clerk.

**Dayton, O.**—Council has decided to repair the Steele Dam by the construction of a crib dam, at a cost of less than \$10,000.

The Water Works Committee of Council will endeavor to at once formulate a plan for additional water supply; a number of tentative plans have been considered, but none has yet been adopted.—Fred J. Cellarius, City Engineer.

**Madison, O.**—The Riggs & Sherman Co. of Toledo has been selected to design and superintend the construction of water works and a sewage disposal plant for the Soldiers' and Sailors' Widows' Home.

**Madisonville, O.**—Water works improvement bonds to the amount of \$8,000 have been sold.

**Urbana, O.**—Council will reduce the proposed bond issue for the water works plant from \$130,000 to \$120,000, which is considered adequate.

**Lindsay, Okla.**—The Board of Town Trustees has called an election to vote on issuing \$40,000 bonds for constructing a system of water works and electric lights.

**Pendleton, Ore.**—A water fling providing 125 cu. in. per second of time for use of the Oregon-Washington Light & Power Co. has been made by E. S. Isaacs, promoter of the company, and has been filed with Recorder Hendley in Pendleton, Ore.; power plant will be constructed on Walla Walla River, about 7 miles below mouth of Skiphorton Creek; it is proposed to supply electricity in Walla Walla, Wash., and Pendleton, Ore., and other cities.

**Chambersburg, Pa.**—President M. H. Reaser and the Committee of Grounds and Buildings at Wilson College were authorized to go ahead at once and let the contract for a private water works for the college with a capacity of 40,000 gallons daily.

**Harrisburg, Pa.**—Council has authorized the Water Commissioner to lay a 6-inch water pipe in Hanover street.

**New Castle, Pa.**—To purify the water supply of the city the State Department of Health has directed the Boroughs of Sharon, Sharpsville and South Sharon to prepare for the establishment of a sewage disposal plant.

**Pittsburg, Pa.**—Electors of Greater Pittsburg have voted \$300,000 for purchase and laying of water mains in East End Section; also \$2,675,000 for purchase of the Monongahela Water Company's plant and extension of its system of supply and distribution.

**Pittsburg, Pa.**—City has voted \$185,000 for incineration furnaces; Bureau of Health will prepare plans.

**South Bethlehem, Pa.**—Council has received a petition from property owners in North Bethlehem for extension of water pipes.

**Warren, Pa.**—The Trustees of the North Warren State Hospital for the Insane some time ago asked for bids for the erection of the new pump station and an equipment of pumps for the same; the bids when received were all considered too high and all were rejected, and new bids are now being advertised for.

**North Kingston, R. I.**—The Wickford Fire Corporation has appointed committee to obtain permission from General Assembly for the issue of bonds for water system.

**North Kingstown, R. I.**—The voters of this district have declared in favor of establishing a municipal water works.—J. W. Greene, F. E. Brown and F. A. Peckham, Committee.

**Rock Hill, S. C.**—An election will be held November 19 to decide the question of issuing \$250,000 5 per cent. water works bonds.

**Watertown, S. D.**—Council has received

ordinances ordering the Watertown Water Company to remove their pipes on Cherry street to a new location on Oak street.

**Commerce, Tex.**—Council will at once let contracts for the construction of water system.

**Corpus Christi, Tex.**—The citizens have voted \$125,000 bonds for purchasing the present water works.—O. O. Wright, City Secretary.

**Dallas, Tex.**—Bids will be received immediately for a carload of valves to be used in connecting the large water mains purchased to connect with new pumping stations; bids at delivery price.—Secretary City Commissioners.

**Ennis, Tex.**—Bonds, \$13,000, have been voted for water works.

**El Paso, Tex.**—Council has authorized new fire plugs at Fourth and El Paso and Sixth and El Paso streets.

**Fort Worth, Tex.**—Citizens will vote on \$1,500,000 bonds for reservoir system; in case of defeat second proposition, \$750,000 for artesian plant.

**Gainesville, Tex.**—The Gainesville Commercial Club is urging other towns along the Red River to combine and sink eight or ten artesian wells and turn the water into the river with a dam every thirty miles and secure a sufficient volume of water in the river to carry boats.

**Greenville, Tex.**—City will purchase the water works plant.

**Houston, Tex.**—The city has voted \$100,000 bonds for the extension of water mains.—H. B. Rice, Mayor.

**Vernon, Tex.**—The town has voted to issue \$48,000 in bonds for water works and a sewerage system.—Address the Mayor for information.

**Salt Lake City, Utah.**—Council has ordered 12-inch main as part of water system on Fifth East and Second and Third South; city's portion, \$2,100.

**Salina, Utah.**—Estimates are being prepared for water system to cost \$15,000.

**Essex Junction, Vt.**—The Burlington Light and Power Co. will install another large dam, making probably the largest storage basin of any power plant in Vermont; total cost of improvements, \$250,000.

**Richmond, Va.**—Eugene E. Davis, Superintendent of the Water Department, has secured a permit to erect an addition to the present pumping station, to cost \$7,000.

**Rutland, Vt.**—A complete water works system, to consist of a 30,000-gallon reservoir and 2½ miles of pipe line, is to be installed in the village of Wallingford by the Wallingford Water Company.

**Swanton, Vt.**—The Trustees of the village are considering plans for a new water system and see what means could be provided to remedy the defects; about 1,200 yards of 14-inch pipe will be laid; cost, \$2,000; Engineers J. L. Collins, of Albany, N. Y., and St. Clair, of Burlington, offered views.

**Norfolk, Va.**—T. B. Dornin, Chief Engineer of Water Department, has recommended to Board of Control a system providing for the natural filtration of the city's water supply; it is stated that this natural filtration can be obtained by a vacuum system of driven wells, air-lift system of wells, system of open wells, with well points or drainers driven out from sides, or subsoil drains leading into system of collecting wells or basins.

**Aberdeen, Wash.**—The Superintendent of Public Works has recommended the construction of a reservoir and extension of mains for the improvement of the water service; estimated cost, \$38,290.

**Hillyard, Wash.**—The citizens have voted \$35,000 bonds for the construction of municipal water works.—R. E. Brown, Engineer.

**Prosser, Wash.**—Government Engineers are now at work under C. B. Cox, Consulting Engineer, making surveys for the purpose of preparing estimates for the cost of a siphon across the Yakima River just below the falls at Prosser for the purpose of irrigating the Benson lands on the south side of the river, which lands are now being supplied with water by the Benson pumping plant at Prosser.

**Renton, Wash.**—Council has accepted plans for water system; estimated cost, \$23,000; water will be brought into town through a 10-in. pipe by gravity.—Address City Clerk.

**Renton, Wash.**—The proposition to issue \$23,000 water bonds will be submitted to a vote of the people.

**Sedro-Wholey, Wash.**—Council is preparing to issue \$10,000 water bonds.

**Wilson Creek, Wash.**—Town Council will advertise bids for sinking wells for water supply.—Address Town Clerk.

**Parsons, W. Va.**—City will vote on issuing \$30,000 of bonds to construct and maintain water-works; also erect and equip fire department building.—H. L. Bennett, Mayor.

**Milwaukee, Wis.**—Bids will be received Nov. 12, 10.30 a. m., for 4,000 tons of 36-in. class "C" cast-iron water pipe and 75 tons of 36-in. class "C" special castings.

—Chas. J. Poetsch, Chairman Board Public Works.

**Vancouver, B. C.**—The city authorities are considering the matter of improving water system to secure water for the suburbs.

**Sault Ste. Marie, Ont., Can.**—The Lake Superior Power Company is letting contracts for a water power plant to cost \$110,000; the plant will have a capacity of 6,300 horsepower at the turbine shafts, and 4,200 horsepower at the switchboard.—L. H. Davis, Chief Engineer.

## LIGHTING AND POWER

**Albertville, Ala.**—The Sand Mountain Electric Co. has perfected organization with E. O. McCord President and General Manager, W. E. Snead Vice-President, J. W. Baker Secretary and J. W. Walker Treasurer, and is about to begin installation of steam plant in North Highlands, to furnish Albertville with electric lights, 25-year franchise and contract having been secured; 15 arc and 600 incandescent lights can be furnished; this plant will be operated until arrangements can be made for development of water power at Short Creek Falls, four miles from Albertville. Wesco Supply Co., St. Louis, Mo., has contract to furnish two 80-horse-power boilers, one 125-horse-power engine and one 90-kilowatt generator; Downey & Tidmore, of Albertville, will furnish poles; M. A. Groover, Birmingham, Ala., Electrician-in-Charge.

**Mesa, Ariz.**—H. L. Chandler, of the Mesa Light & Power Co., is having a new substation built to increase efficiency of present plant; electric motor will be installed; total cost, \$2,000.

**Little Rock, Ark.**—Little Rock Railway & Electric Company will install 1,500-kilowatt turbo-generator at power plant, expending about \$75,000; present capacity of plant about 4,900 kilowatts.—D. A. Hegarty, General Manager.

**North San Juan, Cal.**—An initial step toward relocating the old North San Juan ditch has just been taken by A. A. Sager and Mr. Beverton, both of North Bloomfield, and they have located a new dam site on the Middle Yuba River, about a mile higher up the river than the old dam; total length of ditch, seven miles, and at its terminal point, near the San Juan, will give 1,000 feet of pressure for the power plant to generate electricity; Sager and Beverton have secured a site for such a plant; market for the power is expected to be found in Sacramento Valley manufacturing towns.

**San Jose, Cal.**—The City Clerk has been instructed to advertise for combination gas and electric fixtures for the City Hall in accordance with plans and specifications on file.

**Sacramento, Cal.**—The Board of City Trustees will allow the Great Western Power Company to bring its power into the city by means of overhead wires.

**San Pedro, Cal.**—The Board of City Trustees is discussing the installation of heating and lighting in meeting building.

**Sausalito, Cal.**—Final plans for a gas works at Sausalito, which is to supply the town and Mill Valley with gas for light, heat and cooking, were formed at the meeting of officers of the recently formed Marin County Gas Company; the gas works will be located at Pine Station, on the road between Sausalito and Mill Valley; the capacity will be 200,000 feet daily and the building will cost \$100,000.—R. P. Valentine, Sacramento, Superintendent; John M. Gardiner, President.

**Sacramento, Cal.**—The Great Western Power Company has secured an option on property at Eighth and R streets, upon which will be erected a supply station, repair shop and power distributing plant.

**Denver, Col.**—The Denver City Tramway Company will extend its street car system to Valverde, Overland Park and Fort Logan Districts; the company also plans to construct a new substation, the equipment of which will include two 500-kilowatt rotary converters.—John Evans, Chief Engineer.

**Hartford, Conn.**—The Board of Aldermen has received three petitions for electric lights.

**Hartford, Conn.**—Bids for lighting the city have been rejected and new bids will be asked.

**Jacksonville, Fla.**—The Board of Public Works has received petition for electric lights along Enterprise street and at intersection of Swift and River streets.

**Lafayette, Ga.**—The city has indefinitely postponed election for voting on issuance of \$10,000 of electric light bonds.—T. A. Jackson, Mayor.

**Lavonia, Ga.**—W. N. Edwards is interested in establishing a power plant that will cost \$20,000.

**Norcross, Ga.**—T. G. Johnson, Mayor, will receive prices on wire, lamps, transformers, etc.

**Thomasville, Ga.**—D. R. Pringle, Super-

intendent Electrical Apparatus, is urging the installation in the electric plant of two complete units (engine, generator and switchboard comprising one unit) with generator direct connected to engine, no belts; approximate cost, each, \$10,000; also a boiler to cost \$1,000.

**Wallace, Ida.**—Jesse Freeman, city, has asked for an electric light and power franchise; it is proposed to construct a plant on Slate Creek and a transmission line about 15 miles in length; estimated cost, \$1,250,000.

**Weiser, Idaho.**—Bonds, \$10,000, have been authorized for improving electric system.

**Elwood, Ind.**—E. R. Ester, who recently purchased the heating and lighting plants at Elwood, has in contemplation extensive improvements and will install new machinery.

**New Castle, Ind.**—Ambrose Pety and A. L. Olds, of Detroit, Mich., have secured a site in this city and will build a gas-producing plant.

**Marion, Ind.**—At a meeting of the Board of Works and the Committee from Council having in charge the construction of the municipal lighting plant, Edgar R. Vincent, of Indianapolis, was employed as expert to have charge of selecting the machinery for the new plant and the installation of it.

**Terre Haute, Ind.**—The Pleasant Shades Power Company has incorporated with a capital of \$100,000 to build a water power station and summer resort on Rocky River, near Waveland, 32 miles from Terre Haute; the company owns about 400 acres of land, including the two summer resorts of Pleasant View and the Shades, which are combined in the name of the new organization.—M. H. Ewers, President and General Manager.

**Chandlerville, Ill.**—Roy Ray has been engaged to install an electric light plant at a cost of \$7,000.

**Chandlerville, Ill.**—The citizens have voted \$7,000 electric light bonds.

**Villa Grove, Ill.**—The Villa Grove Electric Company, with \$15,000 capital, has been incorporated by V. M. Elmore, C. W. Hagerman and others for the purpose of operating electric light and power plants.

**Colo, Ia.**—A company is being organized to install an acetylene gas plant.—Address E. J. Carver.

**Davenport, Ia.**—The Committee on Lighting of the three Brady street blocks, between Second and Fifth streets, has decided on the style of lighting, consisting of a galvanized iron post about eight or nine feet in height, surmounted by three globes; incandescent lights will be used and there will be a total candle power of about 180 for each post; plans for the wiring and other appurtenances are now being drawn by the Electrical Engineers in charge and when completed a meeting of the Brady Street Progressive Association will be called to adopt them.

**Iowa City, Ia.**—Iowa City will have an arc light system of lighting the streets, or a combined system of arcs and incandescents; Council has decided to advertise for bids on both propositions.—Prof. A. H. Ford has submitted specifications.

**La Porte City, Ia.**—The electric plant owned by the La Porte City Public Utilities Company has been destroyed by fire; the plant will be rebuilt at once.

**Malvern, Ia.**—L. W. Bohner, of the Malvern Electric Light and Power Company, has made a deal with the city of Tabor and certain business men of that place whereby he is to furnish that city with electric lights; at a recent election they voted the company a franchise and Tabor parties have taken \$7,500 stock in the reorganized company.

**Council Grove, Kan.**—The City Council granted to the Council Grove Ice Company, the right to construct and maintain an electric light system in this city; the plant will be built in connection with the ice plant, where a new boiler house will be built to admit the electrical machinery.

**Garden City, Kan.**—Plans are being prepared for a power station to be erected for the Kansas-Colorado Railroad Company. F. Sargent, of Chicago, Ill., is reported interested.

**McPherson, Kan.**—Plans are being considered for improving and increasing the output of the plant of the McPherson Water and Electric Works, which will include the installation of an engine and alternating-current generator.—John T. Salthouse, Manager.

**Topeka, Kan.**—R. L. Cofran, W. W. Mills and Herbert Hackney have completed work of installing electric light plant; bids have been received for everything but engine.

**Pittsfield, Mass.**—Board of Aldermen have been petitioned for street lights on Wahcouab street from Bel Air mill to North and on North to Greylock Terrace, New road and Chatham streets.

**Baltimore, Md.**—The citizens have voted \$1,000,000 bonds for making extensions to the proposed conduit system.—Mr. Phelps, Chief Engineer Electrical Commission.

**Boonsboro, Md.**—The Antietam Electric Light and Power Company, Boonsboro, Md., will expend \$15,000 to develop water power; the company has a fall of about ten feet, and it is estimated that 200 horsepower can be obtained. Company has built penstock of solid masonry, using 200 barrels of cement, and has constructed six miles of wiring, which will transmit power and light to Boonsboro and other cities. A 75-kilowatt generator, purchased from Western Electric Company, of Chicago, is being installed; two 39-inch turbines have been installed by S. Morgan Smith Company, York, Pa.; H. L. Moser prepared plans, and O. E. Shifler is Engineer in Charge.

**Detroit, Mich.**—The Public Lighting Commission has been ordered to place arc lights on four streets.—G. T. Gaston, City Clerk.

**Minneapolis, Minn.**—Proposals will be received by Council, Nov. 13, for furnishing the city with gas, electric and incandescent gas lighting for street purposes by the order of the Gas Committee of Council; the bids are to cover the period from Jan. 1 to Dec. 31, 1909.

**Missoula, Mont.**—The Missoula Light & Power Co. is planning to add considerably to the capacity of its plant; 1,000 new lights will be furnished.

**Roundup, Mont.**—The Roundup Coal Mining Co. is considering the furnishing of Roundup with electric light and power.

**Clayton, Mo.**—The County Court approved the minutes of the meeting of Sept. 14, at which the King Electric Co. and the Suburban Electric Light & Power Co. were granted an extension of their franchises, jointly covering St. Louis County. Following the approving of the minutes Paul Cable, Vice-President of the King Electric Co. and the Suburban Electric Light & Power Co., is reported to have stated that between \$150,000 and \$300,000 would be expended in laying lines and other improvements.

**Clayton, Mo.**—The County Court has approved the granting of franchises to the King Electric Company and the Suburban Electric Light and Power Company, jointly covering St. Louis County; Paul Cable, Vice-President of the King Electric Company and the Suburban Electric Light and Power Company, states that between \$150,000 and \$300,000 would be expended in laying lines and other improvements.

**Elsbury, Mo.**—Bonds, \$10,000, have been sold for the municipal electric light plant, and bids for furnishing material and constructing the plant will be received by the City Clerk until November 12.—W. A. Fuller, Chemical Bldg., St. Louis, Engineer.

**Kansas City, Mo.**—Council has received petition for 66 gas lights and eight electric lights.

**Omaha, Neb.**—The Nebraska Power Company has been incorporated in Delaware; capital, \$12,000,000; company will develop water power to furnish cheaper electricity for eastern Nebraska cities.

**Pender, Neb.**—Nov. 20 bids will be received for the purchase of \$7,000, 20-year, 6 per cent. electric light bonds.—R. P. Mason, Village Clerk.

**Table Rock, Neb.**—A public meeting has been held to consider the electric light proposition, in which the people are becoming deeply interested.

**Walthill, Neb.**—The village is considering the installation of a combined water and electric light system; estimates on the cost of such a plant will soon be asked.

**Albany, N. Y.**—Council has passed resolutions for three arc lights.

**Corning, N. Y.**—The Buffalo, Lockport and Rochester Railway Company has applied to the Public Service Commission for approval of location of a power transmission line in and through the village of Middleport, Niagara county; the company has ten days in which to answer the complaint.

**Franklin, N. H.**—I. W. Jones, of Milton, of the Spalding-Jones Company, is considering the construction of a dam on Merrimac River near North Boscawen.

**Franklin, N. H.**—I. W. Jones, of Milton, of the Spalding-Jones Company, is considering the construction of a dam on Merrimac River near North Boscawen.

**Perth Amboy, N. J.**—The Citizens' Electric Light, Heat & Power Company has been given permission to sell its plant; Public Service Corporation probable buyer.

**New York, N. Y.**—Architect Raymond F. Almarall has completed plans for an addition to power house at Blackwell's Island, for the Department of Public Charities; cost, \$120,000.

**Rochester, N. Y.**—The Rochester Railway and Light Department has plans for an expenditure of \$750,000 during 1909; work includes extension to plant and many arc lights will be purchased.

**Rochester, N. Y.**—A conduit which will connect the east and west sides of the city's electric light system is about to be built by the Rochester Railway and Light Company

under the New York Central Railroad tracks, just east of North Union street.

**Grand Forks, N. D.**—Council has received petitions for electric lights on Sixth, Euclid and Lanark avenues.

**Cleveland, O.**—Bids will be received November 13, noon, for lighting, extinguishing and keeping in repair electric arc street lamps in the city for the year 1909.—W. J. Springborn, President, Board of Public Service.

**Cleveland, O.**—The Cleveland Electric Illuminating Company will commence operations on its proposed big power plant at Colt avenue and the lake shore next spring if financial conditions warrant; the company has purchased another plot of ground and it is estimated that the company's plans as at present outlined will include an investment of \$1,000,000.—Samuel Scovill, President.

**Lima, O.**—The Board of Public Service has selected C. E. F. Ahlm, Engineer, Caxton Bldg., Cleveland, to prepare plans and specifications for the proposed municipal electric light plant; estimated cost, \$70,000.

**Toledo, O.**—Council has passed an ordinance for the improvement of Kelsey avenue, Nasby street, Raymer street and Spring Grove avenue with electric lights.

**Muskogee, Okla.**—The Prairie Oil and Gas Company has been given a permit by the Board of County Commissioners to construct a pipe line through Muskogee County.

**Stigler, Okla.**—The Stigler Light and Power Company will establish an electric light plant; it will install steam and electrical machinery, to cost \$8,000.—R. E. Stalcup, President.

**Waterford, Okla.**—Council will shortly let contracts for installing \$25,000 work on electric light plant.

**The Dalles, Ore.**—The Wasco County Electric and Water Power Company has filed with the State Engineer maps and definite location of dam sites and power stations on Deschutes and John Day Rivers.

**Pendleton, Ore.**—John E. Smith has filed on 30,000 inches of water from river about five miles below Pendleton, near Barnhart, and proposes to run the water through a flume and pipe line to site of power plant.

**East McKeesport, Pa.**—Council has authorized lighting of borough after Nov. 15 by electricity.

**Ellwood City, Pa.**—Borough Council will advertise bids for electric lighting plant; estimated cost, \$11,000.

**Harrisburg, Pa.**—Ordinances have been presented providing for placing sixteen 2,000-c.p. arc lights.

**Johnstown, Pa.**—Council has rescinded contract entered into with the Citizens' Light, Heat and Power Company and will advertise for bids for lighting the city by electricity.

**Kittanning, Pa.**—The Kittanning and Leechburg Railways Company contemplates increasing the output of its power plant by the installation of a 500-kilowatt, 2,300-volt, 60-cycle, alternating current generator, direct connected.—T. A. Moesta, President.

**Sugar Notch, Pa.**—Town Council has granted the Luzerne County Gas and Electric Company permission to erect gas works and lay gas mains in the borough.—Jno. P. Lenahan, Secretary.

**Vienna, S. D.**—Mr. Morrison will install an electric light plant as soon as Town Council grants him a franchise.

**Chattanooga, Tenn.**—The Chattanooga Electric Company has mortgaged its plant for \$3,000,000; extensive additions will be made to the company's plant, including the installation of a 2,500 kilo-watt turbine.

**Knoxville, Tenn.**—The Board of Trade is urging erection of arches across Gay street, each arch having several lights and three arches to be in each block.—Col. Cary F. Spence, President.

**Rogersville, Tenn.**—The electric light plant of Rogersville has been destroyed by fire; loss, \$5,000; insurance, \$2,000; the plant will be rebuilt on an improved style at once.

**Austin, Tex.**—The Board of Regents of the University of Texas are considering the construction of a power plant.

**Dallas, Tex.**—By the adoption of a resolution offered by Commissioners Doran and Sullivan the Board of Commissioners instructed the City Secretary to advertise for bids for lighting the city; the present contract with the Dallas Electric Light and Power Company expires November 30 and new bids are to be received on a term of not less than one year nor more than three; the resolution reserves to the Board the right to make such changes in the specifications after the bids have been received as may be deemed advisable to obtain the best and most advantageous bid.

**Hubbard City, Tex.**—The Union Central Light and Ice Company is planning to arrange for plans, specifications and construction of the proposed electric light plant.—W. A. Bass, President.

**Temple, Tex.**—President O'Neil, of the O'Neil Engineering Company, with Messrs. Stratton and Godleys, all of Dallas, recently visited Temple on business relating to the proposed reorganization of the Temple Gas Company and construction of a new plant to be modern and in every way practicable.

**Temple, Tex.**—Specifications are being prepared for construction of a municipal lighting plant.—Address Mayor Ginnuth.

**Temple, Tex.**—Plans and specifications are being prepared by the W. D. Boyce Engineering Company, Chemical Bldg., St. Louis, Mo., for the construction of a power house in Temple, in connection with the proposed interurban electric railway from Temple to Waco and Marlin, Tex.

**Bedford City, Va.**—Council will consider a proposition for construction of an electric power plant; it is proposed to organize a company with \$65,000 capital stock, acquire dam and acreage on James River and transmit 1,000 horsepower to Bedford City, probably for distance of twenty-five miles.

**Cle Elum, Wash.**—The Northwest Improvement Company, owners of the present electric light plant, will probably erect a new plant in the spring.

**Seattle, Wash.**—The Coast Lighting Company, with \$25,000 capital, has been incorporated by George L. Grant, C. F. Pennewell, and others.

**Spokane, Wash.**—The Washington Power Company will build 30 miles of high-tension for power purposes from Catalo, Ida., to Wallace and vicinity; also a double power line to connect power station at Post Falls with the Coeur d'Alene mining district.

Plans and specifications for the construction of power works, proposed by a city of western Europe, for uniting all the streams in one power plant, have been forwarded by an American consul and may be obtained by interested parties from the Bureau of Manufactures.

**Spokane, Wash.**—The Washington Water Power Company has been asked to consider an extension of its Big Bend power system to furnish power for the towns of Wilbur and Creston; this extension will necessitate the building of about 30 miles of high-tension power line and may be one of the improvements arranged by the company for the Big Bend system next year; in addition to the high-tension line there will be a substation built at each town.

**Stevenson, Wash.**—Samson & Orton have petitioned for a franchise for an electric light plant.

**Superior, Wis.**—The Northwestern Lighting Co. has been incorporated with a capital of \$15,000 by E. M. Prindle, Theo. Hanson and others.

**Walla Walla, Wash.**—Council has granted the Washington-Oregon Traction Company a franchise to construct a power and electric light plant in Walla Walla.

**Green Bay, Wis.**—J. W. Wixon, of Rhinelander, Secretary and Treasurer of the Rhinelander Lighting Company, is interested in a plan to supply Green Bay with electricity.

**Reedsburg, Wis.**—Council will employ an expert to prepare estimates for providing a power current in connection with the electric lighting plant.

## FIRE EQUIPMENT

**Bisbee, Ariz.**—Council will expend \$125,000 for improving the Fire Department and water works system.

**San Jose, Cal.**—Fire Committee has charge of matter of selecting suitable fire truck.

**San Pedro, Cal.**—President Walton, of the City Trustees, is urging the installation of the Gamewell fire alarm system and purchase of a No. 3 fire engine.

**Turlock, Cal.**—City Trustees will purchase a first-class fire engine.

**Hartford, Conn.**—Fire Commissioner Horace Clark recommends the purchase of a gasoline fire engine for West Hartford.

**Hartford, Conn.**—New bids will be asked for construction of engine house No. 15; cost, \$15,500.

**New Haven, Conn.**—The property owners of the Highwood district have petitioned for improved fire protection.

**Petersburg, Ill.**—Council has voted to buy 10,000 feet of new hose.

**Springfield, Ill.**—The Board of Education has under consideration the purchase of fire extinguishers for the city schools.

**Ottumwa, Ia.**—Council has authorized the Fire Committee to secure bids on combined chemical wagon, apparatus and hose, to be placed in new fire station No. 3 on Iowa avenue, which is to be ready January 1.

**Shirley, Ind.**—A disastrous fire occurred in this place, as the village has been without fire protection; arrangements are under way to secure protection.

**Lexington, Ky.**—The Fire Department Committee has reported to Council that no sites have yet been secured for the South Joplin and West Side fire stations; \$6,000

to be used in their construction is in the hands of the committee.—John Stain, Mayor.

**Lawrence, Mass.**—The matter of the purchase of a new fire alarm system has been left to Mayor Kane and Chief Engineer Rutter; \$14,000 is available.

**Winthrop, Mass.**—The Board of Estimates will purchase fire engine.—Address Albert S. Smith.

**Hart, Mich.**—An appropriation has been made for the purchase of a hose wagon.

**Petoskey, Mich.**—Council is considering purchase of a fire engine and other apparatus.

**St. Paul, Minn.**—Council has been asked to approve a \$50,000 bond issue for the Fire Department, which will be used for the purchase of new equipment and the construction of an engine house.

**Virginia, Minn.**—Council has not yet advertised for a steam fire engine of the second size, but is securing data.

**Townsend, Mont.**—The Fire Department contemplates the purchase of chemical engine.

**Beatrice, Neb.**—Council will ask for bids for the construction of a Fire Department building.

**Newport, Neb.**—City will purchase two chemical engines.

**Newark, N. J.**—The Public Building Committee of Essex County will purchase fire extinguishers for insane asylum.—Emmett J. Quinn, Chairman of Building Committee.

**Perth Amboy, N. J.**—The Committee on Fire will have the truck of Protection Hook and Ladder Company overhauled.

**Newburgh, N. Y.**—Mayor McClung and Fire Department officials will confer to the end that bids may be secured for plans and specifications for a new fire alarm system.

**Danbury, Ia.**—A fire company is to be organized, with E. P. Jacoben as Chief.

**Muscatine, Ia.**—Council on Nov. 19 will consider the matter of establishing proper fire protection for the East Hill District.

**Chestertown, Md.**—Fire company will remodel its house and purchase new apparatus.

**Marion, Mass.**—Town will erect fire station at a cost of \$2,000.

**South Hadley, Mass.**—Town will purchase chemical and combination; fire house will be erected.—A. L. Wright, Chairman.

**McKinley, Minn.**—A fire company is being organized.

**St. Paul, Minn.**—Nov. 18, bids will be received for the purchase of \$50,000 fire protection bonds.

**Grand Forks, N. D.**—All bids for supplying Fire Department with 1,000 feet of hose have been rejected and new ones asked for.

**Fargo, N. D.**—November 12, bids will be received for 1,000 feet of 2½-inch cotton fire hose; 400 feet of 2½-inch fire hose.—N. C. Morgan, City Auditor.

**Hamilton, O.**—The Board of Public Safety is considering the erection of fire houses at East Hamilton and Lindewald; also the extension of the city fire alarm system.

**Strasburg, O.**—Council has decided to erect a new fire station.

**Youngstown, O.**—Council has decided to purchase an automobile combination chemical, hose and ladder truck for the Fire Department.

**Chickasha, Okla.**—Plans have been completed for the erection of a three-story City Hall and Fire Department building.

**Pendleton, Ore.**—It is recommended by Chief Vaughn that a hose wagon be purchased.

**Corwibusburg, Pa.**—Clerk will order 450 feet of hose.

**Germantown, Pa.**—Lower Germantown will have a new fire house.

**Harrisburg, Pa.**—Council has authorized the purchase of a new steam fire engine for the use of the Shamrock Fire Company and has amended ordinance directing the purchase of an automatic aerial truck for the use of the Mount Vernon Hook and Ladder Company.

**Hillsboro, Tex.**—A volunteer Fire Department has been organized at Blum with the following named officers: Oscar Pogue, Chief; Jason Brolles, Assistant Chief; W. B. Erwin, Foreman of the hose company; John Wiech, foreman of hook and ladder company; George Heoffert, Secretary, and John Holman, Treasurer; steps have been taken looking to the proper equipment of the company.

**San Antonio, Tex.**—The citizens of Laurel Heights have petitioned for fire station.

**Abbotsford, Wis.**—A fire company has been organized.

**Wharton, Tex.**—The Wharton Fire Department has been incorporated; city will furnish uniforms, hose-cart, etc.—L. B. Taylor, G. D. Sexton and Amos Rush.

**Menominee, Wis.**—Council will purchase rubber coats and rubber hose for Fire Department.

**Niagara Falls, Ont., Can.**—City Council of St. Catharines will purchase a \$5,500 Waterous fire engine.

## ELECTRIC RAILWAYS

**Birmingham, Ala.**—The Birmingham and Shades Mountain Electric Railway Company has been organized to build an electric railway and a highway over Red Mountain, Shades Mountain and Shades alley. Stephen Smith and G. T. Brazelton, of Birmingham, are interested; the line will be six or seven miles long.

**Fayetteville, Ark.**—Louis Moulton, of Boston, has applied for a street-car franchise to connect with an electric railway projected from Siloam Springs to Huntsville, Ark.; G. T. Propper, of Minneapolis, will build belt line connecting with a road to Joplin, Mo.; he will use an old right-of-way granted for a steam road from Fayetteville east six miles.

**Little Rock, Ark.**—The Central Arkansas Electric Railway Company will extend from Little Rock to Pine Bluff and Hot Springs, ninety miles in length. Date for letting contracts will be set at meeting, January 5; preliminary surveys have been made, and some right-of-way secured.

**Ravenden Springs, Ark.**—An electric car line from Ravenden to Ravenden Springs, a distance of seven miles, seems a certainty now; a movement is on foot among some of the most prominent citizens of this place to organize a stock company at once, and have it capitalized at \$75,000; all the stock that is not subscribed by the citizens here will be offered for sale to outsiders.

**Huntington Beach, Cal.**—Surveys for line between this place and Santa Anna have been completed for Pacific Electric Railway Company.

**Pasadena, Cal.**—With the object of building a new car line between Los Angeles and Pasadena, to compete with the Pacific Electric, the Pasadena Rapid Transit Company composed of about twenty prominent capitalists of this city, will be incorporated soon; capitalization of the company will be \$3,000,000, of which \$1,000,000 will be 6 per cent. preferred stock; Pasadena will be the headquarters of the corporation; Horace M. Dobbins, President of the new company.

**Wilmington, Cal.**—Hancock Banning and Frank Carr, representing Wm. Banning, have applied for a franchise to construct two double tracks to connect the South Pacific and Pacific Electric Company's track with Mormon Island.

**Chicago, Ill.**—The directors and stockholders of the Woodstock & Sycamore Electric Railway have taken steps toward the completion of the road; bonds, \$700,000, will be issued to complete, equip and start the road in operation without delay.

**East St. Louis, Ill.**—The St. Louis and St. Libory Railway Company has been incorporated in Illinois to construct a line from East St. Louis through St. Clair county to St. Libory.—Edward L. Thomas, John T. Taylor, of Belleville, and others, are incorporators.

**Springfield, Ill.**—The Springfield and Jacksonville Electric Railway Company has been incorporated in Illinois to construct an electric railway in Sangamon and Morgan Counties from Springfield to Jacksonville; capital, \$100,000. Incorporators: D. H. Sims, Latham; D. B. Sims, Latham; S. T. Stanley, Chicago, and others.

**Noblesville, Ind.**—Wallace Campbell, Anderson, Ind., is promoting an electric railway from Anderson to Crawfordsville, via Noblesville and Lebanon.

**South Bend, Ind.**—The Kalamazoo, Elkhart and South Bend Traction Company has secured finances to construct the road, and it is the intention to commence work soon; a new franchise has been secured to construct and operate the road through the city of Elkhart; the right of way has been agreed upon and a portion thereof secured.—A. D. Harris, President.

**Winona Lake, Ind.**—Directors and Officials of the Winona Interurban Railway Company have subscribed over \$300,000, to be used in the early completion of the Peru division of the road; work will be resumed immediately; completion of this division will give through service from Benton Harbor, Mich., to Louisville, Ky.

**Leavenworth, Kan.**—Work on the Kansas City and Kansas Southwestern Railway, which will extend from Kansas City through the southern part of Leavenworth County, taking in a number of small towns, will begin very soon; Whitest Laming, of Toganoxie, has sold \$12,000,000 in bonds and the money is now available; this amount will pay for construction of road from Lawrence to Topeka and Lawrence to Independence.

**Lawrence, Kan.**—Mayor Barker and Council have postponed franchise of Sutton Railway Company till next meeting.

**Parsons, Kan.**—The Parsons, Chanute & Cherryville Traction Co. will soon apply to the City Council for franchise to operate a street railway; company plans to construct an electric railway connecting Parsons, Chanute and Cherryville; Wm. Jones, Indianapolis, Ind., is interested.

**Frankfort, Ky.**—An electric interurban railroad from Frankfort to Lawrenceburg will soon be constructed; plans are being discussed and means considered for the beginning of construction work in the early spring, if possible; there are many details to be worked out, but it is said by those who are in a position to know that the high officials have determined that the Frankfort-Lawrenceburg line will be one of the next built of the network which will eventually cover the Bluegrass.

**Pittsfield, Mass.**—The Pittsfield Street Railway Company is having survey made for its proposed line through Hancock, Mass. Barnes & Spaulding, 28 West street, Pittsfield, are Engineers.

**Joplin, Mo.**—Mayor Osborne has signed the ordinance which grants a franchise to the Joplin Union Depot Company to build a depot and operate necessary tracks up to it; this franchise means the entrance into the city of two railroads, a new Union depot, one-third of the steel for the new Third street viaduct and a possibility of better freight rates for the city.

**Atlantic City, N. J.**—The Atlantic City and Suburban Traction Company, which cost \$500,000 and never paid a dividend, has been sold for \$91,000 by Willard Morgan, of Camden, special master in Chancery, to Robert Wetherill, of Chester, Pa., representing the Wetherill syndicate and a committee of the largest bondholders. Mr. Wetherill states that the bondholders would take charge at once and make extensive improvements to the line.

**Lockport, N. Y.**—L. H. Van Allen, formerly of the New York Central in Buffalo, is now in charge of the construction and operating departments of the proposed Buffalo, Genesee and Rochester Traction Company, which will operate between Rochester and Buffalo, N. Y.

**Oneida, N. Y.**—The Board of Public Works has received a petition from the Oneida Railway Company for permission to construct an electric line from the main road at Sherrill to Kenwood.

**Winston Salem, N. C.**—Dr. H. P. MacKnight, proprietor of Vade Mecum Springs, plans to build a standard-gauge electric railway from Winston Salem to Stuart, Va.; estimated cost, \$750,000, of which he proposes to furnish about \$150,000, while the remainder will be in bonds at 5 per cent.

**Dayton, O.**—Engineer Darnell, of the Ohio Electric Company, has announced that the company will spend \$11,000 in improvement to its tracks and right-of-way on South Main street.

**Ironton, O.**—Council has referred to Ordinance Committee the petition of the Ohio Valley Electric Railway Company for a franchise.

**Upper Sandusky, O.**—Council has been petitioned for franchise for line on streets; Frank M. Old, Promoter.

**McAlester, Okla.**—H. A. Hicks, of Raydon, Okla., is urging McAlester capitalists to interest themselves in the projection of an electric railway from McAlester to Raydon.

**Mangum, Okla.**—The Southwestern Interurban R. R. Co. has announced that rights-of-way for this proposed interurban line are now being secured, and when this is done the permanent survey will be made between Mangum and Francis, distances 22 miles; company contemplates beginning construction work this coming spring; road will connect Mangum, Granite, Altus, Blair, Hollis, Vinson, Reed and Cordell; motive power will be electricity, it having already been decided to install the overhead trolley system; power station and repair shops will be located at Mangum; capital, \$1,000,000; J. W. Solomon, Reed, Okla., President; J. C. McCollister, Mangum, Secretary; James Duffy, Vinson, Okla., Treasurer.

**Oklahoma City, Okla.**—The Canadian Valley Railway Company, which proposed to build a 150-mile interurban line connecting Fort Supply, Woodward, Mutual, Selling, Canton, Geary, El Reno and Oklahoma City, has not decided upon date for commencing construction, and that the enterprise is not being pushed at present; the motive power will be steam, electricity or gasoline.—Thomas Martin, President; E. O. McCann, Secretary; L. A. Foster, Treasurer, Mutual, Okla.

**Portland, Ore.**—Council has received another petition from the Portland Railway, Light and Power Company for a franchise for a street railway on Patton avenue.

**Chambersburg, Pa.**—The Chambersburg and Gettysburg Trolley Company propose an extension through Norland, out Edgar to Norland, and on Philadelphia avenue.

**Pittsburg, Pa.**—Joseph Ramsey, Jr., 160 Broadway, New York, states that arrangements have been made to provide funds for building an electric railway line between Pittsburg and the Susquehanna River, about 180 miles, the section of the road on which immediate construction is contemplated.

**Shamokin, Pa.**—The Commissioners have

given the Shamokin and Edgewood Railway Company the right to build its line through that township to Ferndale.

**Aberdeen, S. D.**—The Aberdeen, Huron and Southern Railway Company contemplates constructing an electric railway from Huron to Aberdeen.—J. A. Cleaver, Huron, President.

**Austin, Tex.**—The charter of the Enid, Ochiltree and Western Railway, principal office at Ochiltree, has been approved and filed in the state department; capital stock \$50,000; road will run from Ochiltree to Daltart, a distance of 103 miles.

The charter of the Gulf, Texas and Western Railway, Dallas principal office, has been filed; capital \$500,000; proposed road will run from Burrs Ferry, in Newton county, to Benjamin, in Knox county, and with a branch from Fort Worth to Cottdale, in Wise county; entire distance 435 miles.

**Cleburne, Tex.**—F. E. Davis, a prominent farmer of Grandview, and business men of Dallas are urging an interurban proposition; the people of his section are not very particular about the route, but would prefer a connecting line with Cleburne, Glen Rose, Waxahachie, Corsicana or Dallas; a line touching at Grandview would traverse one of the finest sections of country in Texas; people will assist financially in getting the line through.

**Denton, Tex.**—Much interest is being taken in a projected railway line from Mineral Wells to McKinney, via Denton; a committee of C. F. Witherspoon, J. N. Rayzor, M. S. Stout, H. B. Davenport, W. B. McClurkan, L. T. Millican and W. C. Edwards, has been appointed to confer with the promoters; Mineral Wells has raised \$150,000 in stock subscriptions and Decatur, Denton and McKinney are expected to raise something like an equal amount.

**El Paso, Tex.**—Frank R. Tobin, President of El Paso Suburban Railway Company has presented to Council a petition for the franchise over the streets of the city from the city limits to the Union passenger depot; the petition sets forth that already five miles of the road has been constructed between the town of Tobin and Fort Bliss, and says that if the franchise is granted the work will be commenced within 90 days and completed within twelve months.

**Marshall, Tex.**—Marvin Turney will construct an electric line, franchise granted, as soon as street work is completed.

**San Antonio, Tex.**—The Simmons railroad is to be extended a distance of 70 miles, at an estimated cost of \$11,000 per mile; contract for the first forty miles has been let to J. F. Burns & Co., railroad contractors.

**Waco, Tex.**—Citizens' Street Railway Company will improve its system.—H. C. Scott, President.

**Roanoke, Va.**—Surveys are in progress for the proposed Roanoke and Bent Mountain Railway; the line will run from Roanoke to Floyd, Va., 45 miles in length; right-of-way will be donated; motive power has not been decided.—W. H. Price, President, Elliston; J. Coles Terry, First Vice-president, and A. F. Thornberry, Chief Engineer, Bent Mountain.

**Urbana, Va.**—The Richmond, Urbana and Peninsular Railway Company has secured a charter to build an electric railway from West Point to Urbana, a distance of 16 miles; the main line from Urbana to West Point has been carefully surveyed and the right-of-way secured practically the entire length of the road.—John C. Robertson, Chesterfield, Va., President; Geo. C. Bland, King and Queen C. H., Va., Treasurer; James T. Robertson, Chesterfield, Secretary.

**Ephrata, Wash.**—The County Board of Commissioners has granted a franchise to O. A. Kuck to construct an electric railway connecting Adrian, Ephrata and Soap Lake.

**Lynden, Wash.**—The Nooksack Valley Traction Company, Bellingham, Wash., has been granted permission to operate a street railway in Lynden.

**Portage, Wis.**—J. N. Braun, of St. Paul, is interested in the promotion of an electric railway. Mr. Braun is President of the Western Transportation Company, 317 American National Bank Bldg., St. Paul, which is organizing a company to build a line to be operated both by steam and by gasoline motor cars from Portage, Wis., north, via Briggsville, Oxford and Friendship to Grand Rapids, about 70 miles; contracts for building the line are to be let as soon as incorporation is completed; the company proposes to take over the property and all the rights of the Sparta-Melrose Electric Railway and Power Company, of Wisconsin, and the Western Transportation Company will also incorporate a company to build a line from Galesville to Etrick.

**Milwaukee, Wis.**—The Wisconsin Rapid Transit Company proposes to build an electric railroad system from a connection with the Chicago and Milwaukee Electric Railway, and run around the west

side of Milwaukee, between West Allis and Milwaukee, and thence northwest to Templeton and Sussex and Holy Hill and Hartford, and thence north to Fond du Lac, Ripon, Green Lake and Berlin, a total of about 115 miles; branches will be built from Theresa to Beaver Dam through Mayville, Horicon, Minnesota Junction and Rolling Prairie, about 23 miles; from Beaver Dam Junction to Minnesota Junction, and from Neosho to Watertown, a distance of about 40 miles; a branch line to Menominee Falls, a distance from the main line of four miles; also a 6-mile spur from Hartford to Cedar Lake via Schleislingerville, making a total of about 188 miles.—Chas. D. Smith, President, Fond du Lac.

## BRIDGES

**Newark, Ark.**—Bids were rejected for constructing a steel bridge near here; will be readvertised.—S. B. Wycough, Batesville, Judge of Independence County.

**Pope, Ark.**—Five steel bridges will be erected in this county early in 1909.

**Reedley, Cal.**—The County Supervisors have directed the County Surveyor to prepare plans and specifications for the construction of a bridge line; estimated cost, \$5,000.

**San Bernardino, Cal.**—The County Surveyor has been ordered to prepare plans and specifications for a 30-foot span bridge to be built over the Storm Protection ditch on Colton avenue, in the Mission, in Supervisor Nelson's district.

**Beulah, Col.**—A new bridge will be erected here.—A. T. Stewart, Chairman County Commissioners.

**Atlanta, Ga.**—The Buena Vista & Northwestern Railroad, backed by a number of Atlanta capitalists, has been chartered; company will construct a line of railroad about 17 miles in length, connecting Buena Vista, in Marion County, with Maud, in Taylor County, tapping the Atlanta, Birmingham & Atlantic Railroad at the latter point; capital, \$200,000.—J. A. McLeady, C. V. Sprinkle and others of Atlanta are incorporators.

**Augusta, Ga.**—The Beech Island Farmer Club is discussing ways and means to obtain a bridge across the Savannah River at Sand Bar Ferry.

**Newnan, Ga.**—Central of Georgia Railway will construct bridge over its tracks at Newnan.—C. K. Lawrence, Savannah, Chief Engineer.

**Des Moines, Ia.**—Plans and Specifications have been completed for a concrete culvert, to be constructed on East Thirtieth and North streets, to cost about \$3,500.

**Iowa City, Ia.**—Iowa City and the Rock Island Railway Company may join forces and erect a subway on Gilbert street; the Rock Island officials have taken up the matter with the Iowa City Council; the proposed subway will cost \$60,000 at least.—Address City Engineer Schulze.

**Sioux City, Ia.**—Council has approved the plans of G. Y. Skeels, City Engineer, for viaduct to be constructed over the railroad tracks at Wall street and also passed a resolution to ask the State Railroad Commission to pass upon its necessity.

**Lawrence, Kan.**—The Union Pacific has offered \$20,000 to fund for building steel bridge over the Kaw; total cost, \$100,000.

**Topeka, Kan.**—Street Commissioner Snyder has estimated cost of repairing bridge over Ward Creek at \$50; City Engineer Rodgers has estimated the cost of a span over Milan bridge at \$27,693.72.

**Bangor, Me.**—President Graham of the Bangor Railway & Electric Company has offered to build two steel spans necessary for trolley traffic between Bangor and Brewer.

**Baltimore, Md.**—The Harbor Board will remove the present bridge on Pratt street crossing Jones' Falls, and replace it with a reinforced concrete bridge 120 feet in width; no plans or specifications have yet been drawn, nor will be done until such a time that the appropriation asked for the construction of this bridge has been allowed; if the necessary appropriation is allowed, bids will be advertised on or about March 1.—O. F. Lackey, Harbor Engineer.

**Takoma Park, Md.** (P. O. at Takoma Park, D. C.)—City has rejected all bids for construction of reinforced concrete-steel bridge across Sligo branch at Takoma Park; to be about 275 feet long, 16-foot roadway and 50 feet above stream; available funds, \$10,000.—M. S. Gielow, Washington, D. C.; Ben G. Davis, Town Clerk, Takoma Park.

**Granite Falls, Minn.**—The township of Hammer will vote on the question of issuing \$2,500 bonds for building bridges and roads.—Address Wm. Kluczny, Town Clerk.

**Flint, Mich.**—Council has appropriated \$500 towards building bridge across the Flint River in Burton township.

**Muskegon, Mich.**—Committee of the Muskegon County Board recommends widening of the north Muskegon road and bridges

over the Muskegon River marsh, the new road to be reserved for automobiles, bicycles and motor cycles, also for electric cars in the event that a trolley line is built to North Muskegon; estimated cost \$32,000; it was also recommended that \$2,000 be voted for roads and bridges in Blue Lake, \$2,000 for a bridge across Duck Lake in Fruitland and \$3,000 to be expended in Fruitport.

**Gulport, Miss.**—Harrison County has voted \$50,000 bonds for bridge and road improvements.—Address County Commissioners.

**Kansas City, Mo.**—The Board of Public Works has approved plans for the steel bridge to be constructed over the Belt Line tracks at Twentieth street.

**Missoula, Mont.**—Engineers Waddell & Harrington, New Nelson Building, Kansas City, Mo., are preparing plans for a reinforced concrete bridge for Missoula County; cost, \$150,000; bids will be received by County Auditor.

**David City, Neb.**—Bids will be received until November 17, noon, for construction of all bridges to be built by Butler County during the year 1909.—M. J. Holland, County Clerk.

**Lincoln, Neb.**—A new steel bridge will span the Loup river near Sargent.

**Louisville, Neb.**—The proposed bridge over the Platte River is to be built soon.

**North Platte, Neb.**—It is proposed to build a bridge across the North Platte River east of the city and near the railroad.—Address W. E. Shuman.

**Atlantic City, N. J.**—City has sold \$450,000 bridge bonds.

**Bridgeport, N. Y.**—The proposition to build a bridge over Chittenango Creek, at an estimated cost of \$9,000, will be submitted to joint vote of the towns of Sullivan and Cicero and the counties of Madison and Onondago; plans will be prepared and bids called for later.

**Buffalo, N. Y.**—All bids for the erection of the substructure of River street bridge over slip No. 1 were rejected and the Commissioner of Public Works has been directed to readvertise for proposals.

**New York, N. Y.**—Plans and specifications have been presented to the Board of Estimate and Apportionment for foundations of terminal building in Manhattan; cost, \$950,000; work will probably be done this year.

**Rochester, N. Y.**—Engineer Davis has drawn up plans for a bridge over the Allen street canal; also plans for the Lyell avenue bridge.

**Troy, N. Y.**—City Engineer Greene has received for approval plans for the new structure to be constructed over the tracks of the Boston and Maine Railroad Company at Tarbell Crossing.

**Edenton, N. C.**—Receivers of Norfolk and Southern Railway recommend following bridge construction: Edenton, completion of Albemarle Sound bridge, \$580,000; Berkley, Va., float bridge, \$10,000; Lynhaven, Va., drawbridge, \$5,000; Beaufort, N. C., bridge, \$15,000; replacing of bridges, \$17,500.—Thomas Fitzgerald, Receiver and General Manager.

**Coshocton, O.**—Engineers Waddell & Harrington, New Nelson Bldg., Kansas City, Mo., have prepared plans for two steel or reinforced concrete bridges for Coshocton county; one will have six 110-foot spans, and the other nine 110-foot spans; bids will be received by County Auditor during this month.

**Dayton, O.**—City Engineer Cellarius is about to prepare plans and estimates for a bridge on Stewart street.

**Newkirk, Okla.**—The County Commissioners of Kay and Shawnee Counties will co-operate in building another bridge between the two counties.

**Johnstown, Pa.**—City Engineer Masterson has recommended the immediate repair of the Coleman and Maple avenue bridges; also those over Franklin and McConaughty streets.

**Pittsburg, Pa.**—The New Liberty Bridge Company has been incorporated by John F. and P. H. Mueller, 6335 Walnut street, and Adolph Stredling, to erect a single span bridge across the Monongahela River from a point in the Sixth Ward 426 feet east of the Pennsylvania Railroad to Manor street, south side, where the bridge will connect with the proposed tunnel system to be built by the same incorporators through Mount Washington; the bridge will be of steel, and will be about 2,000 feet long.

**Pittsburg, Pa.**—The Electors of Greater Pittsburg have voted \$1,000,000 for bridge spanning Allegheny River at Point; \$240,000 for rebuilding the Lorimer street bridge and \$30,000 for bridge over Negely Run.—Alex. B. Shepherd, Acting Director of Public Works.

**Plymouth, Pa.**—Citizens are urging a free, centrally located bridge for old Shawnee which will best serve the interest of the town; A. E. Williams is Acting Secretary; committees have been appointed.

**Yorkville, S. C.**—York and Cherokee Counties are considering construction of a bridge over Broad River near Howell's Ferry, where river is about 250 feet wide; estimated that 216 feet of approach work on York county side and 400 feet on Cherokee county side will be required.—Address York County Commissioners at Yorkville, or Cherokee County Commissioners at Gaffney, S. C.

**Salt Lake, Utah.**—The Finance Committee has recommended that the city proceed at once with the erection of a new bridge over the Jordan River to replace the "white bridge" on North Temple street, at a cost of \$8,000.—L. C. Kelsey, City Engineer.

**Seattle, Wash.**—Mayor John F. Miller has signed Council bill appropriating \$16,000 for replanking and repairing the Westlake avenue bridge, between Mercer street and Glen Ridge Drive.

**Austin, Tex.**—Guy C. Bouce, Engineer and Architect, of Austin, has protested the plans of a firm in Kansas City, Mo., for the \$200,000 bridge across the Colorado River in this city; he says the plans are unintelligible, so much so that the contractors will have to guess in bidding; also the dam at this time has been dropped.

**Galveston, Tex.**—All plans have been settled for the causeway to be erected at a cost of \$1,400,000 by the County, the Galveston-Houston electric interurban railway and the steam railroads.—Judge J. W. Terry.

**Elma, Wash.**—All bids for constructing a bridge over the North River have been rejected as excessive, and the County Auditor has been instructed to advertise for new bids.

**Spokane, Wash.**—J. C. Ralston, City Engineer, has estimated the cost of constructing a concrete bridge at East Olive street at \$91,000; the plans provide for a structure 565 feet long with a 40-foot roadway and sidewalks 6 feet wide, to be supported by four piers and two abutments.

**Tacoma, Wash.**—The County Commissioners have instructed the Secretary to advertise for bids for the construction of a new pile-trestle bridge across the Machell River at Eatonville.

**La Crosse, Wis.**—A new bridge is needed at North Third street; plan is to have the combined bridge and viaduct paid for equally by the Burlington, the city and the street railway company. Address City Clerk.

**Milwaukee, Wis.**—About \$100,000 will be the cost of strengthening the Sixteenth street viaduct so it will carry street cars and of laying a permanent pavement upon it.—C. J. Poetsch, City Engineer.

**New Westminster, B. C., Can.**—Engineers Waddell & Harrington, New Nelson Bldg., Kansas City Mo., have prepared plans for a bridge with two 75-foot steel spans for New Westminster; bids are being received.

## MISCELLANEOUS

**Bisbee, Ariz.**—The citizens have voted issue of \$250,000 worth of improvement bonds. Address City Clerk.

**Berkeley, Cal.**—All bids opened October 6 for the destruction and disposition of all garbage, rubbish and waste matter have been rejected and new bids will be called for; it is proposed to receive bids for a plant of 50 tons capacity.—J. V. Mendenhall, Town Clerk.

**Oakland, Cal.**—Council has defeated a resolution introduced by Councilman Jackson recommending a bond issue of \$3,000,000 for harbor improvements; this leaves for consideration the recommendation of the Board of Public Works that the issue shall be for \$1,150,000.

**San Jose, Cal.**—Bids for a truck for the Street Department have been rejected and the Clerk directed to readvertise in accordance with new specifications.

The Clerk has been instructed to advertise for 150 opera chairs, more or less; samples to be furnished by bidders.

**New Haven, Conn.**—The Board of Finance is discussing a site for the proposed garbage incinerating plant.

**New Haven, Conn.**—The Board of Aldermen has passed ordinance requesting the Board of Finance to appropriate sufficient money to purchase for public parks and play grounds the West River tract of land on the easterly side of the Boulevard sewer and south of Edgewood Park; there are four pieces in all.

**Waterbury, Conn.**—The Bureau of Engineers urges the appropriation of \$12,000 for a public comfort station; also \$5,000 for improvement of the city yards.

**Jacksonville, Fla.**—Capt. G. R. Spalding, acting for United States Engineering Department, has purchased water front property to be used as a dredge harbor for vessels in this district; numerous improvements will be made.

**Covington, Ga.**—John W. Dickey & Co., of Augusta, have purchased \$60,000 city bonds at a premium of \$663.

**Chicago, Ill.**—City has voted \$20,000,000 bonds for construction of deep waterway from Lakes to the Gulf.

**Brazil, Ind.**—An election will be held in Clay County to decide the question of issuing bonds for court house. Address County Auditor.

**Davenport, Ia.**—City is discussing the erection of a garbage plant.

**Independence, Kan.**—A special election will be held November 17 to vote on a bond issue of \$15,000 to purchase the old Presbyterian College property for a public park; grounds are 330 by 330 feet, facing on Liberty and Main streets.

**Kansas City, Kan.**—Council has decided not to ask for bonds at present to build new fire stations, a new City Hall and a workhouse; action will be delayed until after a vote had been taken on the question of issuing bonds to purchase the plant of the Metropolitan Water Company.

**Topeka, Kan.**—City Clerk will advertise bids for new patrol wagon.

**Louisville, Ky.**—Alderman Ernest Horn is urging an appropriation with which to supply Louisville with modern drinking fountains.

**Jennings, La.**—Engineer J. F. Harvey has estimated cost of deep-water canal from Bayou Mesquite to Jennings at \$25,000; distance 2½ miles.

**Brookline, Mass.**—At a town meeting the citizens voted appropriation of \$244,000 for erection of a public library at Washington and School streets.

**New Bedford, Mass.**—Council has voted to invite architects to submit sketches for a classical, industrial and commercial high school building, including plumbing, heating and ventilation, the cost not to exceed \$420,000.

**Independence, Mo.**—The Council is considering the issue of \$25,000 city park bonds. Address Llewelyn Jones.

**Kansas City, Mo.**—City Comptroller Pearson is urging issue of \$200,000 bonds for garbage incinerator and \$100,000 for city market improvements. City will purchase property on Thirteenth street for public baths.

**Kansas City, Mo.**—The Park Board has recommended an issue of \$600,000 in bonds for parks. Address Franklin Hudson, Chairman of the Board.

**Liberty, Mo.**—The citizens of Amity County will vote on the question of issuing \$55,000 court house bonds. Address County Auditor.

**Fergus Falls, Minn.**—Superintendent Fred Nusbaumer, of the St. Paul Park System, is preparing plans for a new park, which is being turned over to the city by the Northern Pacific Railway Company. The park comprises two or three acres of land just south of the railway station and will be known as the Northern Pacific Park; city will spend considerable money in beautifying it early next season; Superintendent Nusbaumer is also preparing plans for beautifying the shores of Lake Alice in the northern part of the city.

**St. Paul, Minn.**—Chief J. J. O'Connor and Chas. L. Haas, President of the Police Commissioners, have been directed to have plans prepared for a central police station; probable cost, \$100,000.

**Virginia, Minn.**—Clerk of Council will advertise for bids for purchase of a 3½-ton roller and a street sweeper.

**Virginia, Minn.**—Council is discussing purchase of a stone crusher.

**St. Louis, Mo.**—Architect Jas. A. Smith is preparing plans for a two-story pool and public bath house for the Board of Public Improvements; cost, \$40,000.—A. J. O'Reilly, President.

**Bayonne, N. J.**—City has awarded to Farson, Son & Co. an issue of \$265,000 municipal 5 per cent. bonds.

**Camden, N. J.**—City Counsel Bleakly states the city could proceed to issue bonds for the purchase of public dock, as a majority of the votes cast on that subject at the general election, November 3, was in favor of the project, although it was not a majority of all the votes cast in the city.

**New York, N. Y.**—Plans have been filed for the proposed new municipal building, to be erected on Centre, Reade streets and Park Row; it will be 24 stories, 371 feet above the curb, and surmounted by a tower which will make the total height 559 feet; the estimated cost is \$8,000,000.

**Geneva, N. Y.**—The Board of Public Works is inspecting ground needed for the extension of Lakeside Park.

**Cincinnati, O.**—The Committee on Streets and Parks has recommended ordinance to acquire for park purposes six and one-half acres in Westwood.

**Lorain, O.**—The Board of Service will advertise bids for remodeling and repairing City Hall.

**Toledo, O.**—The Board of Public Service will advertise for bids for the removal and disposal of garbage collected by the city for periods of five and ten years.

**Youngstown, O.**—City Solicitor Oesch has recommended that the Park Council ac-

cept the plot of ground on the South Side offered to the city by Leo Guthman.

**West Unity, Ohio.**—Bids will be received November 21 for the purchase of \$1,800 village improvement bonds.—N. Ely, Village Clerk.

**Oklahoma City, Okla.**—City will erect brick stable; cost, \$2,500.—Henry M. Scales, Mayor.

**Portland, Ore.**—The Health and Police Committee of Council will let contract for gathering and consuming garbage to the firm submitting the best proposition for a term of 25 years.

**Pittsburg, Pa.**—An ordinance authorizing \$150,000 of Councilmanic bonds to give work to the unemployed in the parks has been signed; bonds may be taken by the Sinking Fund, or they may be advertised for public sale.

**Pittsburg, Pa.**—The Electors of Greater Pittsburg have voted \$185,000 for building and equipping incinerating plant for the disposal of garbage.

**Pittsburg, Pa.**—The Pittsburg Chamber of Commerce, by an almost unanimous vote, has declared in favor of a municipal subway system from the business district to outlying residential territory.

**Wilkes-Barre, Pa.**—The lower branch of Council will advertise for bids for cleaning paved streets during winter months.

**Chattanooga, Tenn.**—The Board of Park Commissioners is discussing the improving of Boynton Park on Cameron Hill.

**Greenwood, S. C.**—City has had plans prepared by Cothran & Cothran, of Greenwood, for two-story building to be used for fire department and for offices for town officials.

**Austin, Tex.**—Assistant Attorney-General Sluder has approved \$60,000 Swisher County Court House bonds; \$25,000 Caldwell County Jail bonds; \$70,000 Scurry County Court House bonds, also \$2,000 Wichita Falls Sewer and \$3,500 City Hall bonds.

**Mt. Pleasant, Tex.**—The town is considering issue of \$20,000 improvement bonds.—S. P. Pounders, Mayor.

**Sherman, Tex.**—The Attorney General has approved of an issue of \$30,000 city bonds.—C. E. Craycroft, Mayor.

**Alexandria, Va.**—Council has referred to Street Committee resolution appropriating \$265 for an additional street sweeper.

**Milwaukee, Wis.**—Council has authorized the Board of Public Works to advertise for bids for erection of garbage crematory at foot of Erie street, according to specifications prepared by Dr. Rudolph Hering, of the firm of Hering & Fuller, New York City.

**Milwaukee, Wis.**—Council has referred Braun resolution to have City Engineer recommend expert engineers to prepare plans for track elevation on Northwest Side.—C. J. Poetsch, City Engineer.

**Milwaukee, Wis.**—Council has adopted resolution to purchase auto for Police Department for \$4,600, and referred Biersach resolution to purchase auto for Council committees.

**Barcelona, Spain.**—The Barcelona municipality has offered a prize of \$1,000 for the best poster design for advertising Barcelona as a winter resort, and the mayor of the city has especially invited the competition of American artists; poster must be 1.25x0.90 meters, with space for the words: "Barcelona Ciudad de Invierno." The designs must reach the "secretaria de la comission de atracciones de forasteros" before December 15, 1908.

## BIDS RECEIVED

**Los Angeles, Cal.**—The following are the low bidders for the construction of sewers in various streets: David Joy, sewer in Moneta avenue, from Vernon avenue to 36th place, and other streets, \$8,850; A. H. Calkins & Co., sewer in Moneta avenue, from a point 195 feet south of 58th street to Vernon street and other streets, \$9,718; same, sewer in Los Angeles street, from First to Arcadia streets, \$3,021.—Homer Hamlin, City Engineer.

**Oakland, Cal.**—The Board of Public Works has awarded the contract for furnishing material and paving with asphalt curbing with granite, and guttering with basalt blocks on crossings of 8th, 9th, 10th, 11th, 12th, 13th and Franklin streets; also guttering with basalt block frontage of Franklin street between 7th and 14th streets to Ransome-Crummey Company for \$14,819; this company will also receive contracts from property owners for paving the street proper, which will make a total cost of \$30,000.

**Sacramento, Cal.**—The contracts between the city and the Summit Construction Company for the strengthening of the B street and East levees have been signed by the representatives of the company and Mayor White, and the company has already begun preliminary work on the levee; a spur track will be run from the Southern Pacific Company's line to the pit, and a steam shovel will be employed to lift the

dirt into the cars; it is estimated that 180,000 cubic yards of earth will be needed to build the levee to the required height; the company will have use of 150 flat cars and three engines for handling the dirt, and will rush the work to an early completion; the work will cost the city about \$75,000.

**San Bernardino, Cal.**—The County Supervisors have awarded contracts for two new bridges; one of the structures, the largest one, will be built over the Mojave river at Barstow in Supervisor West's district and the other, a smaller bridge, will be built over City Creek on Highland avenue, in Supervisor Nelson's district; the C. G. Sheeley Company of Denver was awarded the contract for the Mojave river bridge for \$8,792; the contract for the City Creek bridge was awarded to the Union Iron Works for \$1,881.

The bids for the Mojave bridge, which will be a 200-foot single span steel structure, were as follows: Mercereau Bridge Company, \$11,440; John Gelligan Company, \$9,642; John L. Brickets, \$8,975; Union Iron Works, \$10,927; Atlantic Gulf and Pacific Company, \$10,347; C. B. & I. Works, \$13,935; Joliet Bridge and Construction Company, \$11,848.82; C. G. Sheeley Company, \$8,792.

The bids for the City Creek bridge were as follows: Joliet Bridge and Iron Company, \$2,545.35; Mercereau Bridge and Construction Company, \$2,546; C. G. Sheeley, \$1,854; Atlantic Gulf and Pacific Company, \$2,147; Union Iron Works, \$1,847; John L. Brickets, \$1,881.

**San Jose, Cal.**—Bids for cement curbs and gutters on Sixth and Seventh streets, fronting the Horace Mann School, were received as follows: D. Ferrant, 48 cents per linear foot; M. Montoya, \$450; D. Morganti, 55 cents per linear foot; San Jose Concrete Company, 57 cents per linear foot; James Casley, 60 cents per linear foot; M. Kilcourse, 49 cents; John Doyle, \$427. The contract was awarded to D. Ferrant.

Bids for the construction of sidewalks on three sides of the Lowell School were received as follows: M. Montoya, \$660; D. Ferrant, 9 1/4 cents per square yard; San Jose Concrete Company, 11 3/4 cents; James Casley, 9 4/10 cents; Martin Kilcourse, 9 cents. The contract was awarded to Martin Kilcourse.

**Washington, D. C.**—Contracts for constructing sewers have been awarded as follows: Sewers in Congress Heights, to the Lake Stone Company, at \$9,921; in S street and 14th street, S. E., to the W. F. Brenizer Construction Company, at \$3,352.—Asa E. Phillips, Superintendent of Sewers.

The Commissioners have awarded the contract for furnishing two vertical compound engines for the sewage disposal plant to the Shepherd Engineering Company, Williamsport, Pa., at \$5,126.

The following bids were received for building a concrete retaining wall in 11th street S. E. along the west side of the north approach to the Anacostia bridge: J. Paul Smith, \$7,397; W. B. Bradley Co., \$2,986; Lyon Bros., \$4,800; W. A. Frye, \$3,645; Jas. Jenkins Overn, \$4,948, and Warren F. Brenizer, 2d and Ohio streets S. E., \$3,400.

E. G. Gummel has secured the contract for constructing Congress Heights trunk sewer for \$5,659.

**Jacksonville, Fla.**—The Converse Bridge Company has been awarded contract by the County Commissioners for constructing the bridge over Long Branch on Talleyrand avenue for \$5,729, and E. M. Keen & Co. for bridge at Main street. The dimensions of the bridges in the County Engineer's office are as follows: Main street, 24 feet wide and 40 feet long; Talleyrand (or Phoenix Park road), 30 feet wide and 100 feet long. The various bids submitted were for different designs of bridges, some steel, cement, concrete, reinforced concrete and mixed. Bids as follows were submitted: Roanoke (Va.) Bridge Company—Lattice span, 100x30 feet, \$4,100, including floor, \$207; steel pin connection, \$3,900; for floor, 40x24 feet, \$1,600, floor, \$70, and \$1,650, floor \$70.

E. M. Keen, Jacksonville—Reinforced concrete, Main street, \$1,750; floor, \$60.

Southern Erecting Company, Jacksonville—Steel with wood floor, Main street, \$1,871; Talleyrand, \$6,300.

Penn Bridge Company, Beaver Falls, Pa.—\$1,549; steel, with wood floor, \$5,424.

Southern Bridge Company, Birmingham, Ala.—40x24 feet, \$1,861, and \$1,488, 10x30 feet; \$7,240 and \$5,429.

Canton (O.) Bridge Company—Talleyrand street, with wood flooring, \$4,600; concrete, \$6,500; Main street, wood, \$1,700, and concrete, \$2,150, including flooring.

Converse Bridge Company, Chattanooga, Tenn.—Talleyrand, \$4,289; \$6,299, \$4,059, and \$5,729; concrete with cement floor, Main street, \$1,480, and \$1,860 steel, with cement floor.

Logan Coal and Supply Company, Jacksonville—Main street, concrete flooring, \$2,197.50.

Florida Bridge Construction Company, Jacksonville—Talleyrand street, \$4,509; \$4,357; \$4,890.22, and \$1,758.11; concrete, Main street, \$1,331.25.

**Augusta, Ga.**—The Bridges and Wharf Committee of Council has recommended that the bid of J. H. McKenzie's Sons, city, be accepted, at \$20,800, for piers for a draw span at the Center street bridge.

**Burnheim, Ill.**—Hanrahan & Linquist, 1005 Chamber of Commerce Bldg., Chicago, Ill., have been awarded the contract at \$9,200 for laying a system of water mains here. W. B. Ewing is Engineer, 1003 Chamber of Commerce Bldg., Chicago.

**Chicago, Ill.**—Bids for constructing new City Hall have been opened by Commissioner of Public Works John J. Hanberg and Chairman Taylor of the Council Committee on Public Buildings, and the low bids for the various sections of work aggregate \$3,954,226. On the general work the Noel Construction Company, of Baltimore, was the lowest bidder at \$3,295,000; George W. Jackson, Incorporated, of Chicago, was the highest with a figure of \$4,499,940; the bidders and their price on the general work, which includes the construction minus the caissons, the machinery and some of the fittings, are as follows:

Alling Construction Company	....\$3,333,333
Thompson-Starrett Company	.... 3,373,000
George A. Fuller Company	.... 3,486,000
Wells Brothers Company	.... 3,437,000
John Griffiths & Son	.... 3,436,000
Noel Construction Company	.... 3,295,000
William Grace Company	.... 3,524,000
George W. Jackson, Inc.	.... 4,499,940
B. M. Zadeck Company	.... 3,499,707
M. H. McGovern Company	.... 3,843,636

The next largest contract is for marble work, on which were the following bidders, with the bids of each:

Hildgartner Marble Company, of Baltimore	....\$503,929; C. H. Young Company, \$439,000; Evans Marble Company, \$516,000; John Pierce Company, \$471,000; Chester W. Marthens Marble Company, \$495,000; Andrews Stone and Marble Company, \$508,663; Henry Marble Company, \$523,420.
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The lowest bidders on the smaller contracts are as follows:

Electrical generators—Western Electric Company, \$14,245. Engines—Erie City Iron Works, \$30,164; Pneumatic tubes—United Store Service and Tube Company, \$1,795. Refrigerator system—Carbondale Machinery Company, \$6,975. Boilers—Oil City Boiler Works, \$27,250. Elevators, Kestner & Co., \$96,246. Furnaces and grates—Green Engineering Company, \$6,210. Electrical Switches—Westinghouse Electric Company, \$5,409. Coal and ash machinery—Bartlett & Snow Company, \$11,586. Pumps, tanks and high pressure piping—L. H. Prentice Company, \$20,346 or \$32,832 (according to whether first or second system is used).

The bids will be carefully tabulated and checked before formal awards of the contracts are made. The statutes also permit the city to investigate and pass upon the responsibility of the bidders.

The Parker-Washington Company, Chamber of Commerce Bldg., city, has secured the contract for pump pit, suction well and foundations for the Roseland pumping station engine house at about \$46,000.

Bids were opened by the Board of Trustees of the Sanitary District for excavating for and constructing the substructure of a bridge over the Chicago and Northwestern Railroad for the Mayfair cut-off and for the Oakton avenue highway bridge crossing the north shore channel of the Sanitary District of Chicago, and the contract was awarded to John T. Fanning & Co., Chamber of Commerce Bldg., for \$67,955; bids were also received for the erection and completion of the superstructures of the highway bridges crossing the north shore channel of the Sanitary District of Chicago at Linden avenue and Hill street in the village of Wilmette, and at Central street, city of Evanston, and the contract for this work was awarded to the Kelly-Atkinson Construction Company for \$39,983.—I. J. Bryan, Clerk.

**Chillicothe, Ill.**—The Missouri Bridge and Iron Company has been awarded the contract, at \$3,299, for constructing a bridge here to be of steel and iron, 80 feet long, main span 16 feet, roadway of 3-inch oak floor, with a 34-foot approach of like roadway floor, resting on concrete masonry abutments with wings and on two steel tubes.

**Decatur, Ill.**—George B. Tuttle has secured the contract at \$5,825, for constructing two sewers.

**Geneseo, Ill.**—Keys & McNamara, La Salle, Ill., were awarded the contract for paving State street at \$40,000.

**Franklin Grove, Ill.**—B. F. Sheets & Son, of Oregon, have secured the contract by the village for laying water mains.

**Kewanee, Ill.**—Bids for laying one mile of new water main in the southwest portion of the city were opened by the Board of Local Improvements, as follows: B. C. Parkinson & Co., Kewanee, \$3,711; Isaac Pearson & Swan Mason, Kewanee, \$3,480; F. H. Iglehart, Morgan Park, Ill., \$3,899; Kewanee Sanitary Supply Company, \$3,928; J. P. Brady, Kewanee, \$3,961; J. M. Healey Company, Chicago, \$3,949; Grangquist & Euard, Kewanee, \$4,070; H. D. Hallett, Aurora, Ill., \$4,408.

**Marshall, Ill.**—The Mercantile Bridge and Concrete Tile Company, Paris, Ill., has been awarded the contract, at \$17,000, for installation of a sanitary sewer system here.

**Springfield, Ill.**—The Henry Nelch Contracting Company has been awarded the contract at following prices for constructing the south end sewer; sewer, 4 feet deep, \$3.35 per linear foot; 2-inch outlet, 50 cents; manholes, \$30 each; total cost of improvement, \$20,000.

**Evansville, Ind.**—The Water Works Trustees have awarded contract for the construction of the proposed mechanical filtration plant to the Norwood Engineering Company, Hartford, Bldg., Chicago, Ill., for \$245,000.

**Indianapolis, Ind.**—Bids for the construction of the Brightwood sewer system were received by the Board of Public Works; the work will cost about \$190,000 and the bids per linear foot were as follows: John Jenkins, \$9.03; Mansfield Engineering Company, \$10.29; Sheehan Construction Company, \$10.72; American Construction Company, \$11.42, and William Yates & Co., \$11.48. The Sewer will start in Thirtieth street, near Bellefontaine street, and will extend to Brightwood avenue, through Hillside and Bloyd avenues, Glen Drive, Olney and Twenty-fifth streets; it will range from 2 1/2 to 8 feet in diameter; it is said the construction of the sewer will involve one of the greatest risks undertaken by contractors in several years, owing to the uncertainty of the soil to be encountered and the amount of water that will have to be pumped out of the trenches.

R. T. Pickens has secured the contract for constructing the 4-foot 6-inch circular sewer in Sherman Drive, for about \$6,000.

The Union Asphalt Company has secured contract for paving Hawthorne Lane with asphalt, for about \$7,000.

The Merchants' Heat and Light Company and the Indianapolis Light and Heat Company have presented bids to the County commissioners for taking charge of the county power plant and for furnishing heat, light and power to the jail and court house under contract. The Merchants' Heat and Light Company was the lowest bidder, offering to carry out such a contract for a year for \$17,460; the bid of the Indianapolis Heat and Light Company was \$20,000. The County Commissioners took the bids under advisement; there is no assurance that a private contract will be ratified by the County Commissioners, as they think it is possible that the county can operate the plant at even a smaller expense than the amount of the lowest bid.

**Kamiah, Ida.**—John F. Archer & Co., of Spokane, Wash., has secured the contract to construct a 735-foot steel bridge for the Kamiah Bridge Company, Ltd., at \$17,000.

**Waterloo, Ia.**—The contract for constructing about ten miles of cement walk was let by Council to Mishler & Ryan, of Waterloo, at 37 3/4 cents per linear foot; the next lowest bidder was the Cedar Falls Cement Company, at 38.73 cents per linear foot.

**Atchison, Kan.**—The Missouri Valley Bridge Company, Leavenworth, has secured the contract, at about \$12,000, for the construction of 20 steel and concrete bridges for Atchison County.—Edward Iverson, County Clerk.

**Leavenworth, Kan.**—The Board of County Commissioners has let contracts for three new bridges, two of concrete and one of steel: H. M. Slumsky was the successful bidder on the Burwell bridge in High Prairie township at \$750, to be a concrete arch culvert; and the Clark bridge over Little Stranger Creek, a 30-foot arched span of reinforced concrete, to cost \$1,450; the Missouri Valley Bridge Company will erect the Kelly bridge, a steel span, for \$1,578; this bridge will have concrete abutments.

**Fort Thomas, Ky.**—C. J. Helm, Jr., of Fort Thomas, has been awarded the contract, at \$6,979, for the construction of roads and walks.

**Lexington, Ky.**—City accepted bid of Joe Melvin for the construction of a sewer on South Broadway from the old city limits to a point opposite South Broadway Park, and for the construction of a sewer in South Broadway Park; also the bid of L. des Cognets and Company, for the construction of concrete sidewalks, guttering and curbing on each side of Ashland avenue from Main to High; also the bid of Hughes-Forman Company for the con-

struction of concrete sidewalks, guttering and curbing, as provided for by ordinances Nos. 2175, 2176, 2177, 2178, 2182, 2183 and 2184 went through.

**Louisville, Ky.**—The Board of Public Works has awarded contracts as follows: To George W. Gosnell, Louisville, for paving three alleys with vitrified brick, at \$1.80 per square yard; total of \$4,000; to American Concrete Sidewalk Company, Louisville, for sidewalks, at 98 cents per square yard; total, about \$6,000.

The Ferro Concrete and Construction Company, of Cincinnati, O., has secured the contract for constructing Section E of Southern Outfall Sewer, for about \$110,000.

**New Orleans, La.**—The Finance Committee has given a favorable report on the ordinance accepting the bid of T. Hausmann & Son, Limited, for furnishing the city with dog tags, license plates, etc., for 1909.

Several bids for levee building were opened at the office of the State Board of Engineers; the first set were for the Atchafalaya Basin Levee Board; those for the Holloway, Laténach and Lake Bayou were all considered too high, and rejected; they were: Holloway—Linan Brothers, 44½; R. T. Clark, 43; Worthington Construction Company, 44. Laténach—Linan Brothers, 49.97; R. T. Clark, 43; Worthington Construction Company, 44. Lake Bayou—R. T. Clark, 40; Worthington Construction Company, 42; I. R. Bobbitt, 35. The first and second pieces will not be readvertised; they were enlargement work, and the season is too far gone to insure completion, so that they will go over until next season; the Lake Bayou work is new and will be readvertised for November 5. Milam Levee was let to R. T. Clark, at 17.90; Pleta to Linan Brothers, for 21.49, and Souvenir to Clark & Gibson, for 18.72. In the Lake Borgne District Scarsdale Levee was let to Nat. G. Scott at 24.75; Sid B. Mevers bid 27.75.

**Topsham, Me.**—The Trustees of the Brunswick and Topsham Water District have awarded the contract for the construction of the water extension here to the Hanscom Construction Company, 1102 Exchange Bldg., Boston, Mass., at about \$6,000.—Metcalf & Eddy, Boston, Mass., Engineers.

**Baltimore, Md.**—The Sewerage Commission has awarded following contracts in connection with the sewerage system: New York Continental Jewell Filtration Company, 15 Broad street, New York, at \$506,998, for sewage disposal works at Back River, to be completed in 500 days; Metropolitan Contracting Company, H. H. Carter, President, 336 Equitable Bldg., Baltimore, at \$149,841, for west low-level interceptor, Section 4, southwest Baltimore, 250 days; Ryan & Reilly, 26 South Fifteenth street, Philadelphia, Pa., at \$155,202, for force main and Central avenue, to Chase and Durham streets, 275 days; Warren F. Brenizer Company, 229 South Howard street, Baltimore, and 63 R street, N. W., Washington, D. C., at \$120,778 for force main, 211 days. The disposal plant work includes seven filter beds, seven sludge tanks, excavation, embankment and underdrains, largest items considered being 31,000 cubic yards of excavation, 38,000 cubic yards of concrete masonry, 521,000 feet of slotted vitrified slabs, 1,300,000 pounds of reinforcing rods, one meter-house, one control-house and four pump-houses.—Calvin W. Hendrick, Chief Engineer.

James C. Cremen, Chappell and Carey streets, has submitted low bid at \$5,943, for improving Glen avenue, from Park Heights avenue to the Registertown road.—B. T. Fendall is City Engineer.

**Hagerstown, Md.**—The County Commissioners have rejected all bids submitted for the construction of the Charlton road, about two miles long, under the provisions of the Shoemaker road law; the bids ranged from \$20,000 to \$25,000, the bidders being S. S. Stouffer, S. P. Angle, H. E. Bester, Pearre Grading and Lumber Company, Fisher & Carozzo, the latter of Baltimore; the Commissioners decided instead to macadamize the road at an estimated cost of \$3,000.

**Blandford, Mass.**—Daniel A. Dorey, of Natick, has secured contract for installing a water supply system at about \$16,303.

**Easthampton, Mass.**—The Water Commissioners have awarded to the Byrne Construction Company, of New York, N. Y., the contract for laying a line of water pipe from the driven wells on Hendrick street to the junction of Holyoke and Clark streets, a distance of 1¼ miles, to be completed by December 15.

**Fort Andrews, Mass.**—The contract for the construction of roads and walks at Fort Andrews has been awarded to Fred A. Eldredge, of Westbury, R. I., at \$19,435.

**Hyde Park, Mass.**—Bids were opened for construction of a double arch reinforced concrete bridge at Bridge street, Hyde Park, over Neponset River, and the lowest bid received was that of the Bryne Con-

tracting Company, at the following bid: 1,000 cubic yards excavation, 60 cents; 1,200 cubic yards fill, 50 cents; 850 cubic yards concrete, \$8; two 45-foot arches (lump sum), \$5,000; 252 linear feet coping, 70 cents; 224 square yards granolithic, \$2, and 25 square yards rock excavation, \$3; total, \$13,699. Totals of other bids: Emerson & Norris, \$24,568; Aberthaw Construction Company, \$23,971; Falvey & Kelly, \$22,205; M. F. McCarthy, \$19,708; John A. Rooney, \$19,437; W. A. Murtfeldt Company, \$18,472; J. Cashman, \$17,887; Armstrong Construction Co., \$17,380; George Byrne, \$17,198; Hanscom Construction Company, \$16,609; O'Connor & Andrews, \$16,057, and Ley Construction Company, \$14,419.—Clarence G. Norris, Town Clerk.

**Muskegon, Mich.**—The Platt Iron Works, Dayton, O., was awarded the contract by the city for a vertical triple-expansion crank and flywheel engine of the semi-self-contained type with 6,000,000 gallons capacity, at \$35,900.

**Buffalo, Minn.**—The Northwestern Electric Equipment Company, of St. Paul, has been awarded contract for 50 kw. alternator; 19 arc lamps, transformers, etc.; also pole line and wiring construction material, for \$3,258.—H. C. West, Village Clerk.

**Clarksdale, Miss.**—The city has let the contract for the boring of another artesian well to Johnson & Fleming, of Memphis, which well will augment the water supply of the town by several hundreds of gallons per minute; the contract is made under a guarantee of 150 gallons per minute, but it is expected that the flow will easily reach 250 gallons.

**Pascagoula, Miss.**—The Mayor and Board of Aldermen have awarded the contract to the Sullivan & Davis Company, Montgomery, Ala., for constructing concrete curbs and gutters, with necessary sewers, at about \$20,000; the principal work to be done at this time includes Krebs avenue, Cedar and Magnolia streets, a part of Pascagoula street and Delmas Jackson avenue; other streets will be taken up in the course of the contract.

**Alba, Mo.**—The city has awarded contract to Dan Hamilton, Joplin, Mo., for construction of water system.—W. F. Barnett, City Clerk.

**Joplin, Mo.**—Council has passed ordinance authorizing Mayor Osborne to sign the contract with the Kansas City Southern Railway by which the company promises to supply 384 feet of steel for the Third street viaduct, and awarded contract for repairing the South Joylin fire station to Bayne & Huffman, whose bid of \$1,945 was the lowest of three submitted.

**Kansas City, Mo.**—Contract for 10,000 feet of fire hose, considered by Frank S. Groves, George M. Myers and Kelly Brent, the Fire and Water Board, was awarded at 85 cents a foot to the Manhattan Rubber Company, which has been supplying the city for several years; the hose is sold on a five-year guarantee, for which the manufacturers give bond.

**St. Louis, Mo.**—The Pennsylvania Steel Company, of Steelton, has been awarded contract by the city for constructing steel superstructure of the McKinley bridge; estimated cost, between \$500,000 and \$600,000.

**Helena, Mont.**—Bids have been received for furnishing material and construction of water works system, reservoir pipe line and distribution system for the city, the work to consist of approximately 10 miles of wooden conduit, 40 miles of c.-l. mains, 250 hydrants, 400 gate valves, specials, etc., and a storage reservoir, to hold approximately 5,000,000 gallons, together with all appurtenances, and the contract was awarded to the American Light and Water Company, of Kansas City, Mo., for \$529,940; other bids received were: P. Moran, Salt Lake City, Utah, \$572,323; Jacobsen & Bade Co., Portland, Ore., \$570,000; J. Kennedy, Fargo, N. D., \$554,960, and Katz-Craig Company, Omaha, Neb., \$541,275.—Chas. W. Helmick, City Engineer.

The Commissioners of Lewis and Clark Counties have awarded the contract for the erection of a steel bridge over the middle fork of the Dearborn River to the Minneapolis Steel and Machinery Company, Minneapolis, Minn.; other bidders were: Charles G. Sheely, \$4,792; O. E. Peppard, \$4,642.

**Hastings, Neb.**—The following bids have been received for paving the alley between Second and Third streets, from Lincoln avenue to Burlington avenue: A. J. Van Avery, Kansas City or Des Moines brick, \$2.85 per square yard, if same can be procured before freezing prevents excavating; curb, 70 cents per linear foot, 5x20 inches (3 foot 6 inches or over); Clarence Young, Flint or Des Moines brick, \$2.60 per square yard; Purlington or Coffeyville, \$2.50 per square yard; curb, 70 cents per linear foot, 5x20 inches.

**Lincoln, Neb.**—The following bids have been received by the Paving Committee of Council for paving with asphalt (a) C

street, (b) Vine street, (c) E street, and with brick (d) Fourteenth street: Fred McLaughlin & Bryant, of Waterloo, Ia., (a), (b) and (c), \$2.05 per square yard, and \$2.15 for Purlington brick, and (d) \$2.09 for Purlington and \$1.99 for flint brick; Metropolitan Engineering and Construction Company, (a), (b) and (c), \$1.99, or \$2 for vitrified brick; Robert Malone, (d) \$2.05.—William Grant, City Engineer.

**Hackensack, N. J.**—A contract for building a bridge across the Hackensack River from Riverview place, this city, to Railroad avenue, Ridgefield Park, was awarded by the Freeholders yesterday to the F. R. Long Company, of this place, for \$153,185.18; the cost of a bridge approach, fees and other expenses will, it is thought, bring the total cost up to \$158,000; in June, under other conditions and specifications, the F. R. Long Company bid \$167,664, and the F. M. Stillman Company, of Jersey City, bid \$165,497; this included all approaches and expenses; the contract was not awarded then, and the new letting excludes the cost of the Hackensack approach; the governing body of this city, it is understood, will construct that approach.

**Weehawken, N. J.**—The city has let the contract for 7,000 square yards of repressed paving brick to the Layton Fire Clay Company, of McKeesport; the contract is one of the largest booked by the company this season.

**Albany, N. Y.**—The Board of Contract and Supply has received bids for the improvement of Sherman street from the Northern boulevard to Lark street, from Edward F. Dillon, John M. Holler, M. F. Dollard and Mulderry Brothers; the bidders for the construction of sewers under each sidewalk on Myrtle avenue from Lake avenue to Quail street, were James F. Campion, Edward F. Dillon, John M. Holler, John Doyle and M. F. Dollard.

The bids for the sewer on Morris street from Lake avenue to Quail street were received from Edward F. Dillon, John M. Holler, James F. Campion, M. F. Dollard and John Doyle.

**Brooklyn, N. Y.**—The following are the totals of bids, also unit prices on principal items, opened on October 28 by John H. O'Brien, Commissioner of Water Supply, Gas and Electricity, New York City, for extending and improving the high-pressure fire service system at Coney Island, Brooklyn Borough: J. F. Meads, 215 Montague street, Brooklyn, \$84,003; Borough Construction Company, 44 Court street, Brooklyn, \$89,308; Dixon, Clement & Ganant, \$90,133; Murphy Brothers, Brooklyn, \$68,379; L. J. Carey & Co., 190 Montague street, Brooklyn, \$92,961; Hanover Construction Company, 217 West 125th street, New York City, \$83,916; H. E. Fox, 122 East 125th street, New York City, \$85,566; Jas. Kelly, Brooklyn, \$97,031; Phoenix Construction Company, 21 Park Row, New York City, \$93,592; Robert Carter Co., 551 Prospect place, Brooklyn, \$93,170 (totals include hydrants and stop cocks). The items of the low bid, that of Murphy Brothers, were: 1,230 tons straight c.-l. pipe, \$25.25; 150 tons special castings, \$55.50; 20 tons cast iron, \$55.50; 7,200 linear feet 16-inch pipe, 50 cents; 12,500 linear feet 12-inch pipe, 50 cents; 600 linear feet 8-inch pipe, 25 cents; 300 linear feet 4-inch pipe, 15 cents; 1,400 square yards granite block, 15 cents; 1,400 square yards asphalt, \$2.50; 2,500 square yards macadam, 15 cents; 100 square feet bluestone flagging, 2 cents; 3,000 square feet cement concrete sidewalk, 13 cents; 2,000 feet lumber, \$20; 10,000 pounds of steel, 4 cents; 300 cubic yards of excavation, 50 cents; setting sluice gate in manhole, etc., \$750; 600 linear feet board walk, 1 cent.

**Buffalo, N. Y.**—The Fire Commissioners have been directed to contract with the American-Lafrance Fire Engine Company for rebuilding and attaching new boilers on engines Nos. 11 and 26, at \$4,000 for the two engines; also to contract with McCarthy Bros. & Ford for copper line telegraph wire at their bid as follows: 34 miles No. 10 B. & S. G. hard drawn bare copper line wire, at \$15.425 per 100 pounds; 26 miles No. 10. B. & S. G. hard drawn triple braid weather-proof copper line wire, at \$16.30 per 100 pounds, and to contract with the Eureka Fire Hose Company for circular, solid woven, rubber-lined hose, at their bid as follows: 5,000 feet, more or less, 2½-inch Eureka Brand hose, at \$1.10 per foot; 1,000 feet, more or less, 3½-inch Eureka Brand hose, at \$1.50 per foot.

The Supervisors have awarded contract to the Du Bois Iron Works for a gas engine to be installed at the 74th Regiment Armory for electric lighting purposes, at \$6,762.

**Long Beach, L. I., N. Y.**—William H. Reynolds, President Estate of Long Beach, has awarded contract to M. C. Madison for laying sidewalks, curbs and parkings in the central portion of Long Beach, comprising a section of about 7,000 lots; the contract embraces laying about 65 miles of concrete walks and curbing; this work,

together with the sewers for this section, will cost about \$700,000 and will be completed about June 15, 1909.

**Long Island City, L. I., N. Y.**—Bids were received by Lawrence Gresser, President Queens Borough, for constructing sewers in portions of Seventeenth avenue, and the contract has been awarded to the Gore Engineering and Contracting Company, 206 Broadway, New York City, for \$10,150.

**New York, N. Y.**—The lowest bid opened by the President of the Bronx Borough for paving with granite block on concrete foundation Webster avenue, between East 165th and East 171st streets, was submitted by the Asphalt Construction Company, as follows: (a) 20,200 square yards new granite block pavement on concrete foundation, laid with paving cement joints and keeping pavement in repair for one year from date of acceptance, \$2.50, or (b) 20,200 old granite blocks taken up, redressed with new heads and relaid with paving cement joints on a concrete foundation and keeping pavement in repair for one year from date of acceptance. The bid for Class "B" pavement shall include the cost of supplying any deficiency in the number of old blocks required to pave the designated area, \$1.27; 3,250 cubic yards concrete, \$4; 2,800 linear feet new curb, 80 cents; 4,880 linear feet old curb rejoined, recut on top and reset, 30 cents; 3,500 square feet new bridge stone for crosswalks, furnished and laid, 50 cents; 2,260 square feet old bridge stone, rejoined and relaid, 15 cents; 20,150 square yards old paving blocks to be purchased and removed by the contractor, 10 cents; total if (a) is used, \$67,278; total if (b) is used, \$44,447; the Atlanta Contracting Company bid for this work (a) \$68,954, (b) \$48,345.

The following are the lowest bids received by the President of Bronx Borough for regulating, grading, setting curb, flag, etc.: West 162d street, from Summit to Ogden avenue, Haggerty Construction Company, \$5,186; Morris avenue, from Field place to Fordham road, J. C. Voorhies, \$4,907; Bryant avenue, from Lafayette avenue to N. Y. N. H. & H. R. R., D. W. Moran, \$10,834.

The lowest bid received by the President of Bronx Borough for paving with asphalt block on concrete foundation Morris Park avenue, between West Farms road and Bear Swamp road, and resetting curb where required, was submitted by the Barber Asphalt Paving Company, as follows: 21,140 square yards completed asphalt block pavement, and keeping same in repair for five years from date of acceptance, \$1.83; 4,740 cubic yards concrete, including mortar bed, \$6; 9,200 linear feet old curb rejoined, recut on top and reset in concrete, 38 cents; 11,200 square yards completed asphalt block pavement, not to be kept in repair, \$1.80; total, \$90,982. Totals of other bids: Asphalt Construction Company, \$95,858; Continental Asphalt Paving Company, \$95,074; Hastings Pavement Company, \$92,847.

The lowest bid received by the President of Bronx Borough for repaving Teller avenue with asphalt from Park avenue to East 164th street was submitted by the Asphalt Construction Company, at the following bid: 2,550 square yards completed asphalt block pavement and keeping same in repair for five years from date of acceptance, \$1.69; 407 cubic yards concrete, including mortar bed, \$6; 1,350 linear feet new curb, furnished and set in concrete, \$1.10, and 2,400 square yards old paving blocks to be purchased and removed by contractor, 10 cents; total, \$7,996. Totals of other bids: Barber Asphalt Paving Company, \$8,694; Continental Asphalt Paving Company, \$8,321; Hastings Pavement Company, \$8,140; the Asphalt Construction Company also submitted lowest bid for paving with asphalt block on concrete foundation Morris avenue from Tremont avenue to Burnside avenue, at \$9,683.

After a meeting of the Board of Directors of the Pennsylvania Railroad Company, in Philadelphia, the plans for the completion of the electrification of the Pennsylvania terminal in New York City were announced and contract for the work was let to the Westinghouse Electric and Manufacturing Company, 165 Broadway, New York, and Westinghouse Bldg., Pittsburgh, Pa. The contract provides for the electrification of the entire Pennsylvania system from Harrison, N. J., to Jamaica, L. I. The initial amount of the apparatus required under this part of the contract will be \$5,000,000, but this is not the full amount that the work will cost, as it has not been determined how much more than the contract calls for will be done. Work on 100 electric locomotives will be begun at once and on a number of motor cars. To run the system 250,000 h.p. will be required. The contract will cover a period of about two years. George Gibbs, 8 Bridge street, New York, is Chief Engineer of Electric Traction for the Pennsylvania Terminal and Railroad Company.

The following bids were received by the Department of Public Charities, for (1) all materials and labor required for the complete conducting, electric wiring and all other work in connection with the installation of a complete electric lighting and power system for the buildings and grounds under the jurisdiction of the Department of Public Charities, comprising and included in the Metropolitan Hospital District, Blackwells Island, Borough of Manhattan, the City of New York. (2) All materials and labor required for the complete substation, substation equipment, pole lines and other work in connection with the lighting and power system for the Metropolitan Hospital district but not included in this district, Blackwells Island, Borough of Manhattan, City of New York: Gore-Meenan Company, (1) \$68,393, (2) \$65,000; E. J. Duggan, 1133 Broadway, (1) \$50,000, (2) \$33,000; Watson Flagg Engineering Company, 27 Thames street, (1) \$84,995; L. K. Comstock & Co., 50 Church street, (1) \$44,450, (2) \$22,900; Lord Electric Company, 213 West Fortieth street, (1) \$37,900, (2) \$29,479; Cowden & DeYoung, (1) \$50,929, (2) \$28,472.

**New Brighton (S. I.), N. Y.**—Bids were received as follows by George Cromwell, President Borough of Richmond, for (a) furnishing and delivering 9,000 tons of 1½-inch and ¾-inch broken stone and screenings of trap rock or Staten Island syenite at such points and in such quantities from time to time as the Superintendent of Highways may direct; (b) furnishing and delivering 7,000 tons of 2½-inch and ¾-inch broken stone and screenings of trap rock or Staten Island syenite under the same conditions; (c) furnishing and delivering 4,750 tons of 1½-inch and ¾-inch broken stone and screenings of trap rock or Staten Island syenite under same conditions: Joseph Johnson's Sons, 193 Broadway, West New Brighton, (a) \$1.79, (b) \$1.73, (c) \$1.88; Clinton Point Stone Company, 115 Broadway, New York, (a) \$1.74, (b) \$1.74, (c) \$1.84; Manhattan Trap Rock Company, 30 Church street, New York, (a) \$1.80, (b) \$1.85, (c) \$1.95; Quinroy Construction Company, John street, Port Richmond, (a) \$1.50, (b) \$1.40, (c) \$2.00; Joseph A. Boyce, (a) \$1.89, (b) \$1.89, (c) \$1.89; Thomas Carlin, West New Brighton, (b) \$2.00, (c) \$1.85.

**Long Island City (L. I.), N. Y.**—Bids were received as follows by Lawrence Gresser, President Borough of Queens, for the construction of a sewer and appurtenances in Seventeenth avenue from Wilson avenue to Jackson avenue and in Vandewater avenue from Seventeenth avenue to Eighteenth avenue, First Ward: Richard P. Green, \$16,001; Gabriel Hill, \$21,231; Peace Bros., \$13,438; Bart Dunn, \$38,036; H. J. Mullen, \$13,454; Long Island Construction Company, \$13,059; Gore Engineering & Contracting Company, 206 Broadway, New York, \$10,149.

**Rochester, N. Y.**—Whitmore, Rauber & Vicinus have been awarded the contract at \$8,028 for constructing asphalt pavement on Westminster road.

**Grand Forks, N. D.**—Bids for furnishing 1,000 feet of hose were received from the Minnesota Fire Appliance Company, New Jersey Car Spring & Rubber Company, The J. N. Johnson Company, Boston Woven Hose & Rubber Company, Eureka Fire Hose Company, W. S. Nott Company, Barnes & Nuss Company, Manhattan Rubber Manufacturing Company, and referred to the Chief of the Fire Department, and the Fire and Purchasing Committees with power to act.

Bids were received from J. M. Carroll, B. O. Paulsness, P. McDonnell for water main extensions DeMers avenue from Sixth to Seventh streets and from B. O. Paulsness, J. M. Carroll and Northern Construction & Engineering Company, for construction of a water main on Jennie avenue from Seventh street to city limits; on motion of Alderman Griffith, seconded by Alderman Salisbury, the bids of J. M. Carroll, the low bidder, for both were accepted.

Communication from the Streets and Alleys Committee recommending that the city purchase a new street sprinkler manufactured by the Austin Manufacturing Company, of Harvey, Ill., which could be purchased by the city for \$400, read; Alderman Day stated that the same company had offered to furnish new wheels for the grader for \$30, and moved, seconded by Alderman Hunter, that the City Auditor be directed to complete the purchase of the sprinkler on the terms aforesaid, and also that the Committee on Streets and Alleys be empowered to purchase the wheels for the grader.

**Cincinnati, Ohio.**—The following are the bids received by the Board of Public Service for constructing sewers in Fisher avenue, Collins street, etc., for which the Heffron Construction Company, Neave building, at \$32,667 was awarded contract; T. P. Strack, \$32,722; Thos. Maloney, \$33,767; Melchor & Morrison, \$35,098; John E.

Mahoney, \$36,902; W. J. Hollaender, \$39,107; A. J. Henkel, \$39,160, and John B. Washburn, \$40,452.

The County Commissioners have awarded the contract for the improvement of the Duck Creek road to the Gephart-O'Maley Company, at \$41,912. The Surveyor's estimate for the work was \$56,129. Other bidders were M. Sullivan & Sons, \$41,972; the Robinson Construction Company, \$42,668; Francisco & Dawson, \$43,940; George Murdoch, \$44,117; Edward Meier, \$44,796; John Ruebel & Bro., \$45,049; John Snyder, \$45,969; O'Brien & Anderson, \$47,965.—Fred. Dreihls, Clerk.

The contract for the construction of the superstructure of the viaduct for the terminal track from Eighth street and McLean avenue to Third and Front street, has been awarded by the Board of Trustees of the Cincinnati Southern Railway Company to Riter-Conley Manufacturing Company, 55 Water street, Pittsburgh, Pa., at \$165,244.

**Cleveland, Ohio.**—W. M. Gribon and Christian Burkhart have the contract for the Morgana avenue sewer at \$30,000.

**Columbus, Ohio.**—Under instructions to proceed at once with the work, C. T. McCracken & Co. have been awarded a contract for the construction of the Scott street storm sewer, from Skidmore street to Rodgers avenue, in connection with the grade crossing elimination plans, for \$17,778.75; the Service Board, by readvertising, saved more than by \$3,000, as the lowest bid several weeks ago was \$21,000; the former bids were rejected because not properly drawn; the sewer will be 30 inches in diameter, of brick, and will drain streets to be depressed under the tracks of the Pennsylvania Railroad. Workmen will be hired by the contractor and not by the Service Board.

**Dayton, Ohio.**—The T. J. Backus Construction Company, city, is reported to have secured the contract for constructing the North Dayton sewage pumping station for \$8,700.

**Follansbee, Ohio.**—The contract for the Main street curbing has been let to Joseph Zager and Casto & McCoombs at 37 cents and 34½ per linear foot respectively.

**Gallion, Ohio.**—Bids were received by the Board of Public Service for the construction of about 3 miles of intercepting sewer, and the lowest bid was submitted by P. Drake & Sons, of Marion, at the following bid: 14,000 cubic yards earth excavation, 50 cents; excavation for siphons, etc. (lump sum), \$690; 128 cubic yards brick masonry, \$10; 50 cubic yards concrete, \$8; Laying sewers: 2,805 feet 12-inch or less, 10 cents; 2,189 feet 15 and 18-inch, 10 cents; 9,508 feet 20, 22 and 24-inch, 10 cents; laying subdrain, 15,392 feet, 2 cents; 33 standard manhole tops, \$8; 25 tight manhole tops, \$8; 21 manhole pans, \$3; 250 manhole steps, 40 cents; 1,000 feet timber foundation, \$60; 3,864.25 feet sewer pipe, 84 per cent. from list price; 140 Y poles, each 25 cents; 116 ton c.-i. pipe, \$35; 1.27 ton c.-i. specials, \$60; 10 inspection covers, each \$5; 25 vent caps, each \$5; total, \$22,384. Totals of other bids: A. J. Stough, city, \$27,887; J. Murphy & Co., Marion, \$24,454; U. S. Construction Company, Columbus, \$23,389; H. J. Glover, Lorain, \$22,026; H. W. Mathews, Lorain, \$23,440; L. P. Batterfield, Bucyrus, \$26,933; Stratton & Applegate, Alliance, \$31,111; Price & Hurley, Marion, \$22,537.—John T. Shea, Secretary, Bradbury & Shute, 85 N. High street, Columbus, Engineers.

**Mansfield, Ohio.**—Carroll & Gruber, Caledonia, have secured the contract at \$17,778, for constructing 3¼ miles of pipe road.

**Minerva, Ohio.**—L. E. Weber, Secretary Board of Public Service, writes that the Erie City Iron Works, of Erie, Pa., has secured the contract for furnishing and installing 150 horse-power boiler at electric light and water works, for \$1,269.

**Steubenville, Ohio.**—Jas. C. Wonders, of Columbus, State Highway Commissioner, writes that the contract for grading 2.11 miles and macadamizing 8 miles of road in Cross Creek Township (bids opened October 6) has been awarded to McDonald & Martin, of Steubenville, for \$8,759.

**Taylorsville, Ohio.**—The following bids were received by the County Commissioners at Zanesville for furnishing material and constructing superstructure of a bridge at Taylorsville over Muskingum River having two spans, each 154½ feet long, with a 16-foot roadway: Oregonia Bridge Company, Lebanon, Pa., \$12,860; Nelson, Meredith & Co., Atlantic City, N. J., \$13,375; Capitol Construction Company, Columbus, \$12,423; Riverside Bridge Company, \$14,125; Penna. Bridge Company, Beaver Falls, Pa., \$13,390; E. L. Landor, \$13,500; Delaware Bridge Company, \$12,777; Brookville Bridge Company, \$11,145; Mt. Vernon Bridge Company, Columbus, \$11,839.

**Youngstown, Ohio.**—Messrs. Turner & Olson are low bidders for paving Reglant street, at \$4,048.

The County Commissioners have awarded

to the Cleveland Trinidad Paving Company the contract for resurfacing the Market street viaduct at \$1.05 per square yard.

**Anadarko, Okla.**—The city has awarded contract to the O'Neill Engineering Company, Dallas, Tex., to construct a dam on the Washita River and install water power, extend light, water and sewer systems and build a city hall; cost, \$85,000.—J. C. Stelzner, Mayor.

**Bartlesville, Okla.**—The County Commissioners have awarded a contract to E. A. Hanna to build a bridge across Turkey Creek; the bridge will be of iron on concrete abutments and will cost \$2,054.

**Lawton, Okla.**—Chas. H. Shaw, of Muskogee, has secured contract for paving D avenue, as follows: 26,400 square yards paving, \$1.85; 5,500 linear feet concrete gutter, 75 cents.—John D. Kennard, City Engineer.

**Wood River, Ore.**—F. H. Wheeler has secured the contract for constructing water works and electric light plant for \$19,550.

**Charleroi, Pa.**—Council let the contract for grading and paving a block on Lincoln avenue from Second street to a point 499 feet south; there were only two bidders, Hastings, Owens & Barret, and Thomas Arrigo, and the former firm's bid, which was low, was accepted; it will total about \$3,200; the Hillside block is to be used.

**Norristown, Pa.**—Bids for paving with creosote block West Almy Street Bridge were received by County Commissioners as follows: Kreedone Company, of Norfolk, Va., \$12,400, and Toledo-Massillon Company, \$11,250.

**Phillipsburg, Pa.**—The contract for constructing a section of State road in Decatur Township, Clearfield County, from Point Lookout Bridge to Mock's Cemetery, near Blue Ball, has been awarded to the Conestoga Construction Company, at \$38,000.

**Philadelphia, Pa.**—Contracts for constructing branch sewers by the Department of Public Works have been awarded at a total cost of about \$100,150 to the following contractors: Jas. A. Mullen, 5512 Vine street; Thos. V. Monaghan, 4240 N. Fifteenth street; Lombard & Pasenzzi, 601 Betz Building; Donato Delise, 3316 N. Lawrence street; Geo. E. Cantrell, 112 S. Fourth street; David McMahon, E. Chelton avenue; Patk. Durkin, 2950 N. Seventh street; Jos. Moss, 1652 Wakeling street; Robt. P. Ryan, 2116 N. Thirtieth street; John F. McNichol, 920 Betz Building; Richard Bennes, 710 E. Chelton avenue, and Jos. Perna, 234 N. Sixty-fifth street.

The Department of Supplies has opened bids for furnishing supplies to the various municipal departments, involving an expenditure of about \$200,000; 63 bids were submitted.

**Pittsburg, Pa.**—Mayor Guthrie and Director Lang opened bids for the construction of a comfort house at the Northside City Hall and for electric wiring of the Penn avenue police station; the comfort house contract was awarded to William Kerr's Sons, at \$1,855, and the wiring contract to the Morganstein-Ochiltree Company at \$520.

Neeland & Daly were awarded the contract for macadamizing Freeport road, No. 5, about two miles long, by the County Commissioners at \$27,896.

The County Commissioners have awarded the contract for macadamizing 2½ miles of the Freeport road, No. 5, to Neeland & Daly for \$27,896. Bids opened October 22.

**Wilkes-Barre, Pa.**—Bids were opened by Council for the construction of a sewer from Bowerman and Kidder streets to the river, and the low bid, \$119,984.73, submitted by D. M. Rosser, of Kingston, was rejected for the reason that he presented a bond, instead of a certified check; the Gore-Meenan Company, of New York City, was next low, at \$127,309.54; the list of bids follows: C. M. Riley, city, \$178,843.53; Richard P. Bennis, Philadelphia, Pa., \$133,941.99; D. M. Rosser Engineering & Construction Company, \$119,984.73; David Peoples, Philadelphia, \$166,420.19; King, Rice & Ganey, West Hoboken, N. J., \$137,289.70; Steven Flanagan & Son, Scranton, \$153,511.38; Millard Construction Company, Philadelphia, \$174,533.45; The James Duff Construction Company, Cleveland, O., \$168,861.17; Gore-Meenan Company, New York, \$127,309.54; Booth & Flynn, Limited, Pittsburg, \$135,974.31; Joseph Hender Company, city, \$161,741.98.

The bids on the sewer to be built from the river to Pennsylvania avenue and which the Lehigh Valley Railroad Company is to assist in paying for the cost were: Gore-Meenan Company, \$93,418.54; Richard P. Bennis, \$92,463.93; C. M. Riley, \$128,906.36; D. M. Rosser & Co., \$82,739.98; Millard Construction Company, \$132,177.65; David Peoples, \$118,451.36; Steven Flanagan & Son, \$107,769.38; James Duff Construction Company, \$112,645.92; Booth & Flynn, \$96,619.39; Joseph Hender Company, \$115,427.75; King, Rice & Ganey, \$100,650.56.

**Cheraw, S. C.**—The city has awarded the contract to the Joliet Bridge & Iron Company, Ill., for the construction of a steel suspension bridge over the Great Pee Dee River, at \$18,684.

**Jackson, Tenn.**—The city has awarded contract to West Construction Company, Chattanooga, Tenn., at \$23,564.04 for constructing storm sewers and cement pavements on Royal street.—Atwell Thompson, City Engineer.

**Nashville, Tenn.**—The Board of Public Works has awarded contract to E. T. Lewis Company at 75 cents per square yard for repaving Cumberland River Bridge with vitrified brick; G. B. Woodward, at \$1,351.85, for improving Heiman street, and to Curtis & LeSueur, at \$1,025, for improving Clinton street; all of Nashville.

**Dallas, Tex.**—On the lighting plant proposition, the H. W. Graber Machinery Company submitted an estimate on a plant to cost about \$90,000; six-cylinder Diesel engine of 450 brake horsepower were specified, the plant to have two double-units capacity; the estimate was referred to Commissioners Doran and Sullivan, composing the committee on the new lighting contract for the city.

**Fort Worth, Tex.**—S. A. Tomlinson, city, has been awarded a contract for the construction of a power house for the municipal electric light plant for \$7,535; the equipment will include two engines and generator, the cost of which is estimated at \$44,000; the plant will have sufficient output to supply electricity for 600 arc lamps in addition to the 200 lamps now in use.—Lee Stephens, Commissioner.

**Galveston, Tex.**—Bids were received by the City Commissioners for paving a portion of Market street, (a) 4,192 square yards with brick, the city portion, and (b) 2,675 square yards with brick, the railway company's portion: Horton & Horton, (a) \$1.63, (b) \$2.25; Wm. I. Heffron Company, of Galveston, (a) \$1.70, (b) \$2.28; John C. Underwood, (a) \$1.62, (b) \$2.33; Kelso & Vantriv, of Galveston, (a) \$1.65, (b) \$2.25, and T. O. Brown, (a) \$1.70, (b) \$2.25.

The City Commissioners have awarded contract to the North American Dredging Company, 13 Park Row, New York, for additional filling work, at \$18,086, in the western part of the city.

**San Antonio, Tex.**—Actual construction on the Simmons Railroad, from San Antonio to New Aretesia, will be begun at once; the first work is to be commenced at a point about 15 miles west of San Antonio; the plans call for the ultimate extension of the road to the Simmons Ranch, 70 miles from San Antonio; the contract for the first 40 miles has been let to J. F. Burns & Co., railroad contractors, whose force of graders is now assembled ready to begin; it is estimated that the road will cost about \$11,000 per mile.

**Teague, Tex.**—The N. S. Sherman Machine & Iron Works, of Oklahoma City, Okla., has been awarded the contract at \$50,000 for the construction of water works with a daily capacity of 1,000,000 gallons; storage reservoir, 300,000,000 gallons; 75,000-gallon standard water tower 100 feet high; the equipment includes two 35-horse-power engines, belt-driven; two single-acting triplex pumps, 9 x 10 inches.—J. W. Maxcy, C. E., Binz Building, Houston, Engineers-in-Charge.

**Salt Lake City, Utah.**—Two bids were received for the construction of a building for the suction gas-producer plant, one from A. M. Anderson and one from Louis A. Guller; Mr. Anderson also made a bid on the erection of the dwelling for the pumping station engineer.

The letting of the contract for the curbing and guttering on Third South, between Tenth and Twelfth East streets, was put over for action at a special meeting; there were two bids: P. J. Moran, \$17,723.76, and the James Kennedy Construction Company, \$21,786.05.

The Board of Public Works opened bids as follows for curbing and guttering in Extension No. 6: Jas. Kennedy, Atlas Block, \$21,786, and P. J. Moran, of Salt Lake City, \$17,724.

**Lynchburg, Va.**—Bids were received as follows by the Council Committee on Streets for placing new stringers under street car tracks, and lacing top chords, Rivermont viaduct, the approximate quantities of the work being 101.5 tons channels in stringers, 6.4 tons lace bars, 18,260 feet B. M. lumber: W. W. Lindsay & Co., Harrison Building, Philadelphia, Pa., \$9,750; Laner & Harper, \$8,590; Virginia Bridge & Iron Company, Roanoke, Va., \$8,960; Geo. A. Dietrich & Bro., Richmond, Va., \$9,890; Jones & Adams, Lynchburg, \$10,340; Carolina Engineering Company, \$8,350; Owego Bridge Company, Owego, N. Y., \$8,212; Nelson Merydith Company, Lewis Block, Pittsburg, Pa., \$8,518; Joliet Bridge & Iron Company, Joliet, Ill., \$8,737.—H. L. Shaner, City Engineer.

**Norton, Va.**—The contract for a new city jail has just been awarded to John Jenkins;

it will be built of brick and equipped with steel cages.

**Spokane, Wash.**—The following are the bids received by the Board of Public Works for constructing the sub trunk sewer in the First Ward, District 9: John Fife, \$51,744, awarded contract; Julia V. Costello, \$73,860; G. Burgie, \$74,965, and Naylor & Norlen, \$58,000.

The following are the bids for trunk sewer, Fifth Ward, District 1: Naylor & Norden, \$61,900, awarded contract; John Fife, \$73,644; Julia V. Costello, \$90,217, and G. Burgie, \$91,965.

John Fife secured contract for constructing sub-sewer in the First Ward, District 12, for \$12,844, and same contractor for trunk sewer in Fifth Ward, Dis. 2, for \$5,444.

**Tacoma, Wash.**—The County Commissioners have received bids for the construction of the new pile trestle bridge to be built upon the site of the old Lime Kiln bridge at McMillin, as the former bridge, which has seen twelve years' service, is rapidly settling and becoming dangerous; part of the lumber from the old structure is to be used in the construction of the new, and in this manner the cost of a new bridge is nominal; four bids were opened, but the bid of F. W. Slater, for \$393, being considered the lowest and best, was accepted and the contract awarded to him; the other bids received were: North West Bridge Company, \$530; H. N. Keys, new materials throughout, \$454; G. L. Cline, \$325, with additional charge for all new lumber used in construction at \$12 per 1,000 feet.

**Beloit, Wis.**—The Board of Public Works received bids for lateral sewers in Euclid and Portland avenues as follows: G. Maffioli, \$7.50 for each surface; Newton & Zimmerman, \$8.40.—R. R. Caldwell, City Engineer.

**Monroe, Wis.**—The contract for 5,600 feet of 15-inch sewer joining main sewer line west of the city has been awarded to the O'Farrell Construction Company, of Du-buque, Ia., at 63 cents per foot; total cost, \$3,528.

**Hamilton, Ont., Can.**—The Fire and Water Commissioners of Council have recommended the acceptance of the bid of the Canadian Westinghouse Company, of Hamilton, for the new pumps and motors for the Beach Pumping Station, at \$20,148, and the bid of the John Montgomery Company, of Toronto, for an air pressure system for pumping water to mountain top, at \$6,500.

**Montreal, Que., Can.**—Bids have been opened for a reinforced-concrete wall and supply conduits for the pumps at Point St. Charles Wheelhouse as follows: The Rexford-Bishop Company, \$21,813 (awarded contract); P. McGovern, \$37,637; J. Leahy & Co., \$34,690; Henault & Heffernan, \$41,058; the Hilder Daw Construction Company,

## INCORPORATIONS

**Dover White Marble Co., Dover, Del.;** quarry marble and stone and dress same; capital, \$2,000,000. Incorporators: Coleman E. Andell and John Mitchell, No. 43 Wall street; Raphael Brill, No. 539 West 149th street, all of New York.

**New Orleans Paving and Roofing Co.,** Macheca Building, New Orleans, La.; to manufacture paving block from waste materials; capital, \$250,000. Incorporators: O. B. Delord, president; Joseph Muller, vice-president; W. B. Lancaster, treasurer; F. P. Quilan, secretary; Daniel Burgess and F. W. Rankin, directors.

**Miguel C. Palmer Company, Jersey City, N. J.;** general contracting business; capital, \$200,000. Incorporators: Miguel C. Palmer, Dominguez 13 Cerro Havana, Cuba; Hiram C. Hammett, 476 Eighth street, Troy, N. Y.; Joseph Hover, 73 Essex street, Hackensack, N. J.

**Putnam & Haro, Inc., New York, N. Y.;** general engineering, construction and contracting work; capital, \$10,000. Incorporators: John R. Putnam and Wentworth G. Haro, 126 Liberty street; Michael R. Matteo, 31 Nassau street, all of New York.

**Roosevelt Water, Power and Light Company, Roosevelt, Nassau County, N. Y.;** water supply; capital, \$40,000. Incorporators: Edward Uhe, Roosevelt, N. Y.; Arthur Whitehouse, Roosevelt, N. Y.; Charles E. Whitehouse, Hempstead, N. Y.

**Shaler Water Power Company, Portland, Me.;** to furnish fresh water for power and other purposes; capital, \$100,000. President, J. J. Myers, Cambridge; Treasurer, F. F. Stanley, Swampscott; clerk, George E. Bird, Portland.

**Saddle River Water Supply Co., Jersey City, N. J.;** to construct water supply plants; capital, \$100,000. Incorporators: Clinton E. Fisk, Franklin Vreeland, Richard F. Tully, as above.

**F. D. Smith Engineering Co., New York, N. Y.;** electrical engineering and contracting; capital, \$10,000. Incorporators: Frank D. Smith, Chester G. Meeker, Charles F. Dixon, No. 123 Liberty street, New York.

## TRADE NOTES

**Cast Iron Pipe.**—Chicago: Orders aggregate about 2,000 tons a week. Foundries, although not running at full capacity, are fairly well employed. Quotations: 4-inch, \$27; 6 to 12-inch, \$26; 16-inch and up, \$25. San Francisco: A few large orders are in prospect and outlook for small orders is better. Bids for 40,000 tons for high pressure service will be called for within three months. Birmingham: A fair amount of small orders have been received, especially for small sizes. There has been a decided improvement in inquiries for 500 and 1,000-ton lots. Quotations: 4 to 6-inch, \$24; 8 to 12-inch, \$23; over 12-inch, average, \$22. New York: General demand is still light. Quotations: Carload lots, \$23.50 to \$24 for 6-inch.

**Lead.**—The demand has broadened, and while prices are unchanged from last week, there is a reluctance on the part of the cheapest seller, the American Smelting & Refining Company, to sell large lots or for more than six weeks in the future. Its price to-day for shipment lead in 50-ton lots is 4.30 cents, New York; at the same time independent sellers are asking 4.30 cents, St. Louis, and 4.45 cents, New York.

**Air Lift.**—Pumps at the central water works station, South Bend, Ind., were started recently, taking water from the reservoir, and the air lift tests will continue to be made by the Harris Air Lift Company, Indianapolis, Ind., for several days. John Olephant, vice-president of the company, is superintending the work. Tests so far made are satisfactory, it is said, and the Harris company is desirous that the city should purchase the outfit.

**Trolley Line Sold.**—Robert Wetherill, of Chester, Pa., bought the Suburban Trolley Line at a receiver's sale at Atlantic City, Oct. 21, paying \$91,000 for the "right, title and interest" in the corporation. Mr. Wetherill, after the sale, stated that he was acting for the "bondholders, who had a half million invested in the roadway." He denied that he was acting either for the West Jersey Railroad Company, which wanted the company, it is said, in order to block competition with the Short Fast Line, or for the Shore Fast Line directly.

**Fireproofing.**—The General Fireproofing Company, Youngstown, O., are manufacturers of metal lath, corner head, studding, metal furring, wall ties and concrete reinforcement of various kinds, including expanded metal, wire fabric bars and pin-connected girder frames. "Allsteel" furniture is another line of their product, and includes filing devices, desks, tables and lockers. A neat catalogue gives detailed information.

**Sewer Molds.**—Hickson's Sewer Mold Company, Mt. Gilead, O., manufactures steel molds for culverts, sewers, conduits and other hollow structures. The mold consists of an inner shell and an outer, the former, which is spaced and adjusted by a device which is placed on the top of the inner member, and is also movable on it.

**Enamel Bricks.**—The Enamel Concrete Company, Des Moines, Ia., are patentees of a process and machine for making a waterproof enamel brick of handsome appearance. The company publish a catalogue describing their product, the brick machine and the plans of the company.

**Shaking Grate.**—Neemes Brothers, 206 First Street, Troy, N. Y., have installed during the months of September and October some large grates in the following plants: The Pennsylvania depot power house, Thirty-first Street, New York City, 6 sets of grates, 12 feet long x 12 feet 6 inches wide, burning No. 2 buckwheat coal. The Coney Island & Brooklyn Railway, Smith Street plant, Brooklyn, N. Y., 6 sets of grates, 12 feet long x 12 feet 6 inches wide, burning No. 3 buckwheat coal. The Utica Gas and Electric Company, Utica, N. Y., 8 sets of grates, 7 feet x 8 feet 6 inches, burning No. 2 buckwheat coal. Hudson River Electric Company, Utica, N. Y., 2 sets of grates, 7 feet x 10 feet 10 inches, burning No. 2 buckwheat coal. Princeton Theological Seminary, Princeton, N. J., 3 sets of grates, 5 feet x 4 feet, burning No. 2 buckwheat coal. Hartford Electric Light Company, Hartford, Conn., 2 sets of grates, 8 feet 8 inches long x 24 feet 8 inches wide, burning No. 3 buckwheat coal. Washington State College, Pullman, Wash., 2 sets of grates, 7 feet long x 5 feet, burning slack soft coal. Rochester Federal Building, Rochester, N. Y., 4 sets of grates, grate coal. Walter A. Wood Mowing and Reaping Machine Company, Hoosick Falls, N. Y., 6 sets of grates, 7 feet x 6 feet, burning soft coal. Johnstown Harvester Company, Batavia, N. Y., 8 sets of grates, soft coal. Winnsboro Cotton Oil Company, Winnsboro, Texas, 2 sets of grates, lignite coal. Albany Federal Building, Albany, N. Y., 3 sets of grates, grate coal. The Campbell Knitting Company, Elmira, N. Y., 1 set of grates, 7 feet long x 6 feet, burning soft coal. Crystal Hygeia Ice Company, New York City, 2 sets of grates, 8 feet long x 5 feet wide, burning No. 2 buckwheat coal. Tioga Tanning Company, Hutton, Md., 1 set of grates, 9 feet long x 6 feet wide, burning tan bark. U. S. power depot, Picatinny Arsenal, N. J., 1 set of grates, 7 feet 7 inches long x 7 feet 1 inch wide, burning No. 2 buckwheat coal. The Aeolian Company, Aeolian Hall, Fifth Avenue, New York City, 2 sets of grates, 6 feet 6 inches long x 5 feet 7 inches wide, burning No. 2 buckwheat coal. Cadgene Silk Dyeing and Finishing Company, Paterson, N. J., 1 set of grates, 7 feet long x 6 feet 6 inches wide, burning No. 1 buckwheat coal. Vermont Construction Company, Burlington, Vt., 4 sets of grates, grate coal. The company has also made grates for the following incinerating plants: Sacramento, Cal., 1 grate, 9 feet 6 inches long x 9 feet wide. Walla Walla, Wash., 2 grates, 9 feet 8 inches long x 13 feet 10 inches wide; 1 grate, 6 feet 10 inches x 6 feet 9 inches wide. Regina, Saskatchewan, Canada, 1 grate, 9 feet 8 inches long x 9 feet 10 inches wide. Norfolk, Va., 1 grate, 10 feet long x 13 feet wide. Edmonton, Alta., Canada, 2 grates, 9 feet 8 inches x 9 feet 10 inches wide; 1 auxiliary grate, 6 feet 10 inches long x 2 feet 10 inches wide.

**Traction Sale.**—Judge Waddill of the United States Circuit Court has filed a decree in Richmond, Va., looking to the final sale of the Virginia Passenger and Power Company properties, which means an end to the present receivership and protracted litigation of the street railways of Richmond and Petersburg, in which the Gould interests are large holders. In the event that the security holders do not agree upon a sale price within 30 days the properties will be offered for sale to the highest bidder.

## PROPOSALS

### REINFORCED CONCRETE CONDUIT

Reading, Pa.

Sealed proposals will be received by the Board of Water Commissioners before 7:30 o'clock P.M., November 24, 1908, for building about 8,000 feet of 60-inch reinforced concrete conduit and appurtenances for raw water for Malden Creek sand filters. Plans, specifications and proposal blanks can be had from the Superintendent and Engineer, Emil L. Nuebling, at 25 N. 11th street, by depositing the sum of \$5. The right is reserved to reject any or all proposals.

EDWARD ELBERT,

Attest:

President.

LINCOLN S. RAMSEY,

(20-21)

Secretary.

### SANITARY SEWERS

Tuskegee, Alabama.

Sealed proposals for furnishing all labor and materials and constructing certain sanitary sewers will be received by the Mayor and Council at the office of the Mayor at Tuskegee, Alabama, at 3 o'clock P.M., November 16, 1908. The work for which proposals are invited includes approximately 3,755 linear feet of 8-inch sewer, 1,529 linear feet 6-inch sewer, and all manholes and appurtenances as shown in plans and specifications prepared by G. N. Mitchem, Engineer. All trenches are in unpaved streets, except 1,000 feet at outlet, the latter being through a field; very little sheathing required in trenches. Copies, plans and specifications furnished at a cost of \$5. \$500 certified check must accompany proposal as guarantee that bidder will enter contract if bid is accepted. Bond in the sum of double amount bid must be furnished in surety company. Right reserved to reject all bids.

O. S. LEWIS,

Mayor.

### INTERCEPTING SEWER

Washington, D. C.

Office of Commissioners, District of Columbia, October 24, 1908.—Sealed proposals will be received at this office until 12 o'clock noon, November 16, 1908, for constructing Section D of the East Side Intercepting Sewer, Boundary to Brookland, District of Columbia. Forms of proposals, specifications and necessary information may be obtained from Chief Clerk, Engineer Department, Room 427 District Building, Washington, D. C.

HENRY B. F. MACFARLAND,

HENRY L. WEST,

JAY J. MORROW,

Commissioners, D. C.

### GAS PLANT FOR SALE

Newbern, N. C.

Notice is hereby given that the property of the Newbern Lighting and Fuel Company at Newbern, N. C., being the gas plant, including the real estate, plant, fixtures and franchises, and all other property belonging to the Newbern Lighting and Fuel Company, will be sold to the highest bidder for cash at the hour of 12 o'clock M. on the 23d day of November, 1908, at the Court House door in Newbern, N. C., by the Receiver of the Newbern Lighting and Fuel Company, under the order of the Court made in that certain action, entitled "J. M. Cox against Newbern Lighting and Fuel Company," in the Superior Court of Craven County, N. C.

GEO. A. NICOLL,

Receiver Newbern Lighting and Fuel Company.

Newbern, N. C.

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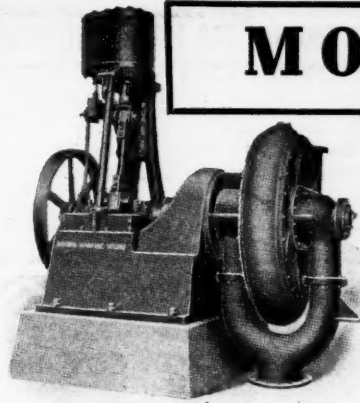
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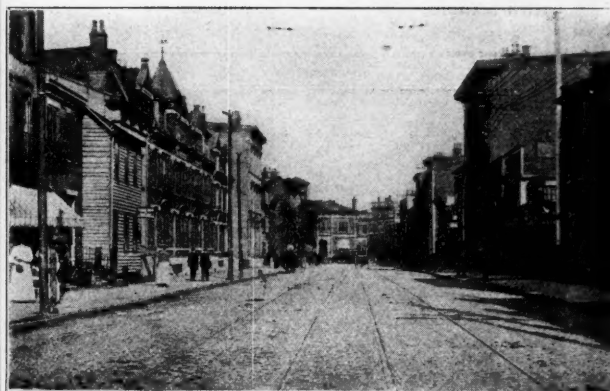
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Fig. 48

Coffin Shear Sewer Gate  
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Fig. 210  
6" Standard  
Gate Valve

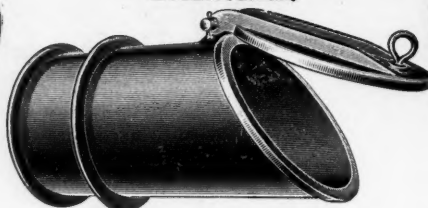


Fig. 47  
12" Coffin Flap Valve

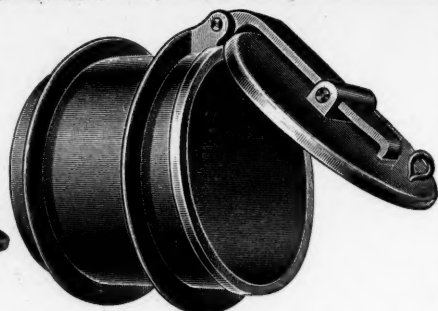
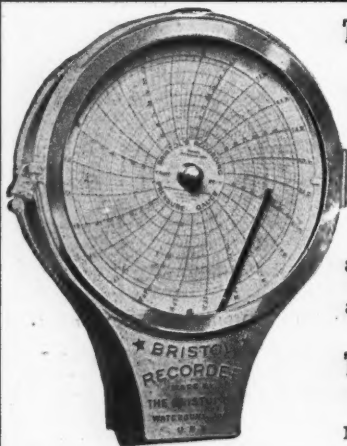


Fig. 41  
30" Coffin Flap Valve  
Double Pivot

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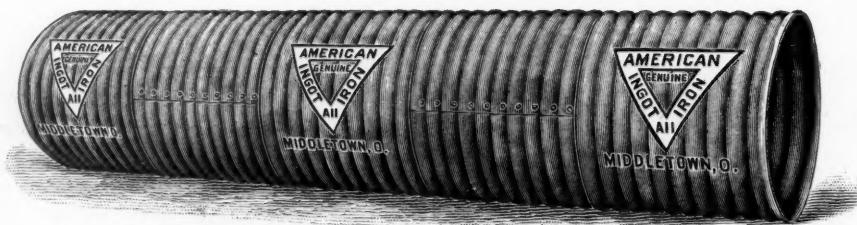
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